# *RPG REVIEW*

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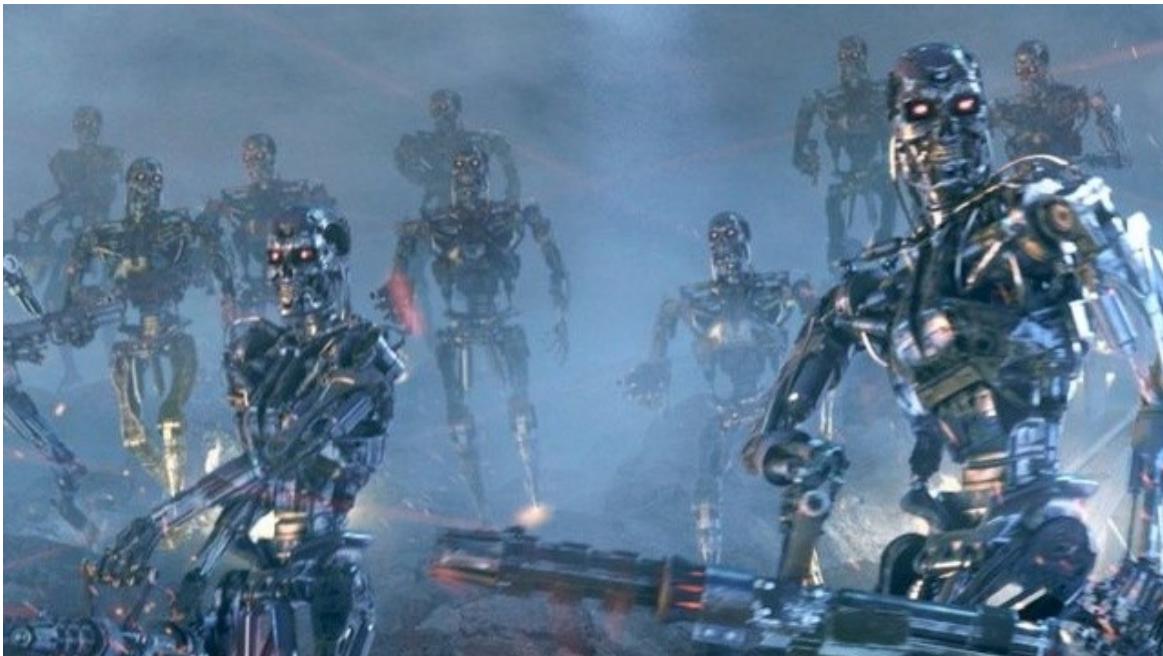
Roleplaying and Computers

Code of Cthulhu … Representation of Roleplaying in Computers and Computers in Roleplaying … PHP Scripts for Tabletop Roleplaying … Dice Are Dead … Star Frontiers Programming … Star Wars Edge of Empire Review … PAX Aus Review … Final Fantasy MMORPG Reviews… "Rand" For Brainstorming … Computers in the Future … AIs and Allies Game … Mutants and Masterminds PC/NPC … Industry News … Industry News … Oblivion Movie Review … World War Z Movie Review

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ADMINISTRIVIA

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Cover image is a screen shot from the Terminator series directed by James Cameron. Image in the Star Frontiers article by Thomas Verreault.

EDITORIAL

Welcome to RPG Review 21, where we've taken a slightly different tack from the tradition of being strictly interested in traditional table-top roleplaying games and have moved to looking at points of crossover between this hobby and the role of computers, including computerised versions of roleplaying games.

The issue begins with an hilarious crossover by David Cameron Staples of the true horror that systems administrators experience on an alarmingly regular basis - Code of Cthulhu. Interestingly the real monsters in that scenario are other people. This is followed by a trilogy of articles by yours truly on the representation of computers in roleplaying games, the representation of roleplaying in computer games, and some short examples of PHP to aid GMs.

From an advocacy perspective Karl Brown explains why dice are dead and Julian Dellar offers his personal experiences of the interaction between roleplaying games and computers. Karl also follows up with an very interesting and somewhat squeaky NPC for Mutants & Masterminds, satisfying our regular column for an NPC. Thomas Verreault,

who keeps the flag of Star Frontiers flying, offers a range of programming languages for that game - but also compatiable for many others. Also as regular features we have Wu Mingshi keeping us up-to-date in her amicable style and Andrew Moshos (who also has style) with a movie reviews of Oblivion and War War Z.

As a new contributor offering a computer-mediated roleplaying game Damien Bosman gives a review of the Final Fantasy MMORPGs. Also as a new contributor Jim Vassilakos provides three articles; a DOS-based program, "Rand", for the generation of characters, a fact-based article on futuristic computers in RPGs, and even a complete game, AIs & Allies, Also there are new contributions by Sara Hanson, reviewing PAX Aus in Melbourne (where about 50% of RPG Review comes from), and Aaron McLin, reviewing the latest Star Wars RPG.

Another issue which I've been mulling around for a while (and, no, it doesn't make an article in this issue) is a correlation between the design of roleplaying systems and computer languages in terms of programming paradigms. Given that the rise of personal computing and tabletop roleplaying games has a strong historical correlation and, as some of these articles show, a connection, this is perhaps not so surprising. Roleplaying systems have been deeply encoded as games in both rulebooks and in software. Providing a most abstract model, early roleplaying game systems followed an imperative programming paradigm; there was a purpose for a rule and that rule had a particular procedure, and every case was a special case. Over time organisation of the rules became increasingly important, so there was a move to structured game design. From there an increasing desire for modular and procedural game systems. Finally, there is increasingly examples of object-orientated game design, with characteristics like abstraction, encapsulation, and inheritance.

A major item of note is the establishment of an RPG Review second-hand games store, hosted by yours truly. This has come about because after over thirty years of playing RPGs and an inability to refuse a bulk-purchase bargain I have ended up with quite a collection, dating back through the 70s, 80s, and 90s (and less of the 00s and 10s). Much of the material constitutes "classic", "old" "hard to find" and is worth having a look. Overseas buyers however should be aware that postage from Australia is hefty (it's heft too Australia as well) and may wish to consider surface mail options. The URL for the RPG Review store is: http://www.quicksales.com.au/shop/RPG-Review.aspx

But that's not all; starting from this edition, and working backwards to previous editoins, RPG Review will also be available online in an html-book format. This is, of course, something that should have been the case form the very beginning rather than just distributing it as PDFs. But it is better to do it now rather than never at all. Also, all subscribers to the RPG Review mailing list will receive an account for commentary on said pages, although that does come with the caveat of good behaviour.

Continuing this outburst of forward planning the next two issues already have some forward planning involved. The next issue is orientated with content-title "Continuum", specifically looking at four roleplaying games that were among the "first generation" and remain with us today; namely Dungeons & Dragons, RuneQuest, Traveller, and Tunnels & Trolls. The issue after this will be historical tangents, including games like Earthdawn, Hawkmoon, Space 1889, Dogs in the Vineyard, etc. Perhaps gentle reader, you may suggest what subject matter we could concentrate on after this? It's your fanzine too.

The choice of cover for this issue, a movie still from the *Terminator* series of movies, is quite deliberate. One of our irregular contributors has, for some years now, been collecting evidence that the Skynet (by any other name) is an inevitable conclusion of our technological trajectories. As we witness the development of running robots, automated assault rifle systems, drones, and self-driving cars, we're let with an uncomfortable question. *What could possibly go wrong?*

Rest well, water and carbon lifeforms. In the end, you know the machines will win.

Lev Lafayette (lev@rpgreview.net)

HOT GOSSIP: INDUSTRY NEWS

by Wu Mingshi

Hosei bo, Mr. Lev...

My spies tell me that Mayfair Games make move on German boardgame company soon. Remember when they do roleplaying games? No, me neither /jkg. Actually, I remember, they do edition second for horror game call "Chill". Early this year Mayfair sell rights to Martin Carlon who maybe bring third edition of game to table? Spies also say after many year Spanish game Aquelarre will be publish in English ("Aquelarre será traducido al inglés", I read). This game famous with review in Dragon magazine when Mingshi very small. It say game not suitable for America because lots of blood, demons, and magic, and very sexy too. Mingshi think reviewer not come to my island home, there be no games at all!

Internal Correspondence tell Mingshi that this is another good year for the games, four years of growth, hooray. Most popular RPGs this quartering, all agak-agak, are Pathfinder number 1, Dungeons & Dragons number 2, Star Wars number 3, Iron Kingdoms number 4, Dark Heresy number 5.

Compare to last quartering with Pathfinder at number 1, Star Wars number 2, Dungeons & Dragons number 3, Dark Hersy number 4, and Iron Kingdoms number 5. Congratulations to Iron Kingdoms making big moves. Also Privateer Press release real soon, new sourcebook for Iron Kingdoms, call "Kings, Nations, and Gods" about the big countries in that world. How come you not review yet? Malu?

Monte Cook Games zooming along, do big promotion of Numenera, another game RPG Review neglect, la? Double confirm malu? Numenera and the Numenera Player's Guide just release. It is post-apocalyptic science fantasy RPG set a billion years in the future. A billion years! Mingshi think planet already dead by then. Also Monte Cook Games do new science fiction game call "The Strange". That all Mingshi know about it, which is strange. La, malu for Mingshi.

D&D Next all pia with supplements in preparation, so it can be #1 again and big gorilla in room. Vault of the Dracolich has been release with quest for diamond staff in undead dragon lair. Sound like you need a hobbit.

OK, that is all from me this quartering!

Mingshi! xox (mingshi@rpgreview.net)

CODE OF CTHULHU

by David Cameron Staples

A roleplaying game of eldritch investigations into secrets of which man was not meant to know. Where *Call of Cthulhu* meets *Kult* meets System Administration.

GM *You are happily sitting at your desk after a pleasant Friday lunch, when you see a notification of an email.*

Player I groan and open the mail.

It is a Nagios ticket. CPU warning on a server. You don't recognise what the server actually does.

Sigh. I log in and run "top".

It's pretty slow to log you on. Top line of top shows "java" using 249% of the CPU. Load's at 93. Roll 1d10 SAN loss.

Shit. Um... press "c".

You can see the full details of the Java invocation. (d6 SAN) And you can see the fateful curse "tomcat" mixed in with the strange moon language. Roll another d10 SAN loss.

Dammit. Um, do I have any service owner contact details?

What do you think?

I think I should ignore it and see if it'll sort itself out.

You go and get a cup of coffee. It's good. Recover 3 SAN.
Suddenly you realise there's a Client Relationship Manager standing right behind your chair, breathing heavily. You didn't even hear him approach. d6 SAN loss. He tells you that some critical service is unresponsive, and he's already escalated to your supervisor's boss that you haven't fixed it yet.

Is he the service owner?

No, he's the guy who promised the customer that this service would never fall over. He also golfs with the head of the IT services department.

Shit. I ask him if I have his permission to restart the service.

"What, you want to break it more? Why do we pay you people to break things? You have to fix it now, there are millions of dollars at stake!"

Looks like…**cough**…oh god I just threw up blood into my eyeballs…looks like you're trying to perform the Rite of The Shaded Moon to summon The Forgotten Ones. Would you… **gasp**…would you like some help with that?
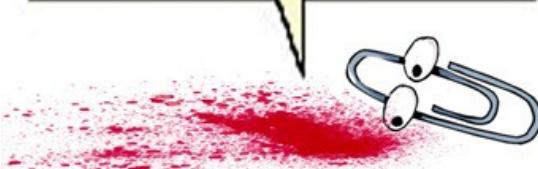
Does he know who is the service owner?

Guess.

Does he know where there's any documentation?

Seriously?

Right. Um. Fuck it. "# service tomcat restart"

tomcat: unrecognised service

Fuck. "# chkconfig --list"

You see only one service which looks like it might be what you're looking for. It's called "data_sqafxz".

"# service data_sqafxz restart"

"Usage: /etc/init.d/data_sqafxz {start|stop|import}"

"Import" WTF? No restart function. OK: "# service data_sqafxz stop"

"Stopping SQaFXZ data service ... ... [OK]"

Right. "# service data_sqafxz start"

"Starting SQaFXZ data service ... ... [FAILED]"
The CRM behind you has started shouting. "What did you do? Did you just break it? Why did you break it?" His phone starts ringing. Another CRM arrives and starts yelling at the first one, then they both yell at you. Your INT is effectively -20 while they're doing this.

Fuck. Logs. There have to be logs, right?
"cd /var/log/; ls -l"

There is a SQaFXZ directory.

"cd SQaFXZ; ls -l"

It appears this package does its own log rotation. Meaning in practice that there is a date stamped log file for each day this service has been operating, and none have been deleted.

What? Why??

One of the CRMs shouts something about "auditing" and "security". The other screams "Access Control!".

How far back do these logs go?

ls -l pipe though wc -l... divide by 365... about four and a half years.

How big is this disk?

df -h says "... 100GB 57% /var/log/SQaFXZ". Go ahead and roll another d6 SAN.

That's ... what, 30+ megs of log a day, every day for four and a half years?

Yep.

tail(1) today's.

Ten lines isn't nearly enough. You can see that it's all Java error and warning logs, and you can see that something dropped its clogs, but you will need to go further back to see what.
Another CRM has turned up, and he brought your supervisor's boss. They are all yelling at each other and at you. Lose another 10 INT while they're doing it, and have a d10 SAN hit.

less(1) today's log.

Start making INT checks.

Fail.

You see a reference to a failure related to a service not being accessible, but you don't think that's the immediate problem, because that service was turned off three years ago and the hardware taken away by a metaphysical hazmat team.

Hey, pass!

You find a reference to a server not responding, and lots of errors after that where it went crazy trying to reconnect. That's probably where the CPU load went.

I'd better have a look at that other server, then.

^A^C on screen(1), and you're good to go. This server is up, but also taking its time. It's running Solaris.

Yeah, I'll just go ahead and roll ... d6?--

d6

-- d6 SAN loss now. OK, what's making it slow? I run top.

At the top of the screen you see the command "oracle", and a series of dread runes and forbidden incantations taking up the rest of the commands on the page. Take 10d10 SAN loss. ... Oh dear, that takes you negative. Very negative. So negative that you suffer a contagious psychotic break: your madness cuts holes in reality itself, and faceless daemons from unknown realms emerge to plague a yet unknowing mankind. The CRMs greet one as "Doug". You weep tears of blood and gibber quietly as the veil shreds and you realise that you sit in the cubicle by the toilet door in the fluorescent cube hell of Gehenna.

It is now five forty-seven, Friday afternoon.

THE REPRSENTATION OF COMPUTERS IN ROLEPLAYING GAMES
by Lev Lafayette

Introduction

From the earliest science fiction roleplaying games, there has been a representation of computers according to what the game designers considered to be appropriate to their setting, and what their actual knowledge of computer systems were. The combination of the two sometimes was quite illustrative of popular speculation, conventional wisdoms, and experience. From this initial period consideration can be given to the representation of computers in Metamorphosis Alpha, Star Frontiers, Traveller, and Space Opera. A second generation representation with the personal computer is evident in games like Cyberspace, GURPS Cyberpunk, Cyberpunk, early editions of Shadowrun, Alternity, and with a special mentions of Paranoia. In most contemporary times a direction which follows incorporates computers with everything. Examples of this approach can be found in GURPS Transhuman Space, the most recent editions of Shadowrun, and Eclipse Phase.

Early Attempts

Metamorphosis Alpha (1976), the first science fiction roleplaying game, was set on a massive colony ship that was struck by mutating space radiation. With massive losses among the crew and colonists and dangerous mutant plants and animals now abound, eventually proper knowledge of maintenance was lost. The ship's computer went into minimal operations mode. Whilst there is virtual no rules as such to represent the computer, however of more significant importance is the variety of robots available in Metamorphosis Alpha, which obey the verbal commands of character's wearing appropriate command bracers. These include General Purpose Robots, Ecology Robots, Engineering Robots, Medical Robots, and Security Robots, each of which come with a short list of capabilities and features. It is typical of the time which provided a utopia (although oft-flawed) of helpful robots and computer systems as single mainframes. One can also mention in passing The Morrow Project (1980) where a computer, whilst central to the overall plot of the game (awakening cyrogenic teams 150 years after a war), isn't actually provided any statistics.

In a much more sophisticated manner, the computers in Space Opera (1980) were evaluated according to their capabilities in a systematic manner. Computers were evaluated according to CPU (by which they meant RAM) and storage, in terms of kdpu, thousands of data processing units, with each unit representing 100 000 bits, or 12.5kb. Even with this somewhat accurate method of measurement, the game seriously underestimate the capability of computer and communications technology. The cheapest computer, at a mere 100 000 credits and weighing in at 500 kg, comes with a 6 gigabyte hard disk and just over a 1 gig of RAM, and of course, software costs tens of thousands of credits. The skill for the design and operation of such systems (Computer Engineering) was considered a "highly specialised form of electronic engineering" with some steep prerequisites, including several levels of physics.

This general format was picked up in Traveller. It is notable in the original ruleset (1977) they are only mentioned in passing as an optional component in starships. In The Traveller Book (1982) however a representation of computers is provided to enhance starship controls. They are measured in Model numbers, from 1 to 7 combining their CPU (processors and memory) and storage. The CPU capacity determines the number of simultaneous running programs whereas the Storage capacity of how many additional programs can be kept in holding capacity. Of particular note was the rather modest capacity of the computer programs (e.g., +1 bonus to a skill) and their extraordinary price and weight (typically between 1 and 45 million credits and weighing 1-5 tonnes). Software prices also cost up to several million credits, although a successful programming roll (in two week increments) could write such programs.

In a more simplified manner, Star Frontiers (1982) provided three basic related technical skills, Computer, Robotics,

and Technician. Within the computer skill there were eight separate subskills, covering operations, programming, security, information display, program manipulation, networking and repair. Programs were rated in levels (from 1 to 6) which determined the "function points" of the computer (i.e., no separation between processing and storage). The total function points determined the weight of the computer (from 3 to 800 or more kilograms) and the cost, calculated from the total number of function points multiplied by 1,000. The interesting innovation from Star Frontiers is that it truly allowed for functional personal computers.

By this stage, it is fair to say that the representation of computers was beginning to be systematic, but not particularly realistic, least of all in consideration of future possibilities of computer systems. Lest such extrapolations be considered unfair, it is worth considering the Moore's Law (and elaborations to other metrics) were well known even by this stage.

The Cyberpunk Era

Paranoia's (published in 1984, how appropriate) special mention occurs because it represents the computer as a multi-layered text. On one level there is the official narrative that the player characters receive; that Alpha Complex is under threat from "Commies" and is protected by an apparently well-meaning but computer whose scope is totalitarian and authoritarian, and whose decrees often seem absurd and insane. As the second edition back cover suggests, "imagine a world designed by Kafka, Stalin, Orwell, Huxley, Sartre, and the Marx brothers". At first glance this seems very similar to the first generation representation of computer systems in roleplaying games; a massive all-encompassing computer system with some flaws (very significant flaws in this case), that is not given much in terms of statistical information or even in terms of specific capabilities.

But without giving too much away (after all, it's been almost thirty years since publication) this is not the full story. The Computer (proper noun capitalisation required, friend Computer) is part of a network in conflict with other computer systems in other complexes, each of whom thinks the other has been taken over by "Commies". Within each complex itself, The Computer is not necessarily aware of what its subsystems are doing - in other words, it has an internal network as well. Finally, the computer is in a state of constant change as High Programmers (security clearance Ultraviolet) maintain and alter the system - each with their competing personal interests, secret society affiliations, and mutant powers. The Computer started insane, and as a result of manipulations, has become crazier since. The opportunity is also noted here to mention that a great number of FTP servers have the message "150-The computer is your friend. Trust the computer" flash past when using that application - what is fascinating is reading message boards with people being (a) concerned about such a message and (b) not knowing the origins.

Deriving from the representation of a global computer network in Neuromancer (1984), Cyberpunk (1988), provided an icon-driven "Net", a virtual world with characters having interface plugs or 'trodes and cyberdecks, whose key characteristics are memory, speed, and defensive "data walls", and the programs they carry. Programs themselves are rated by their strength, cost and memory units used, which on a typical deck means that the netrunner is limited to 3-5 programs. Although the general layout on the international scale is realistic, within systems a dungeon-like grid-layout is illustrated, poorly mimicking computer architecture, and used for dungeon-crawl virtual combats. A note is given to supplement Hardwired (1989), written by the science fiction author Walter John Williams who had a novel of the same name, who provided a more realistic computer network and even a basic pseudo-code programming language which encouraged players to develop for their characters.

Somewhat neglected, ICE's Cyberspace (1989) measures computers in terms of processing power, operating system and applications and input/output devices, measured in Mark #s, which each mark representing a "unit" of "CPU space" (read RAM), and ten times those units for storage. An example unit consists ranging from 1 hour of high fidelity audio (music) to 1000 pages of text. Computers also have an overall speed based on processor core technology. The game also provides an interesting cyberspace environment complete with physical feedback counter-programs. There is some detail on the user environment, intrusion and combat programs, utilities etc.

Famous for being raided by the U.S. Secret Service as the author was an active member of a computer security fraternal

group, GURPS Cyberpunk (1990) provides a cinematic 'cyberspace' environment and 'realistic networks', with a similar elaboration in skills from the realistic Computer Operations, Computer Programming skills, and with recognition that the realistic version of the Computer Hacking skill is primarily about social engineering. Computers are described in levels of complexity representing ten times the processing power and speed of the proceeding level. Software, along with a financial cost, are also rated in terms of complexity; a computer can run two programs of it's own complexity simultaneously and ten programs of a preceding complexity level. System access was primarily differentiated between users and superusers, with optional further detail. For a more cinematic flavour, a cyberspace environ is also offered where increasingly expensive neural and graphic environmental interfaces, very unrealistically, provide heightened speed of interaction.

As a crossover between fantasy and science fiction, Shadowrun (1989) of course has run into its own temporal claim of the return of magic with the end of the Mesoamerican long-count calendar. With a cyberpunk milieu, Shadowrun's representation was as "the Matrix" (this was prior to the films) with cyberdecks and neural interfaces. With a game system based around dice pools and successes, game-system representation was often quite abstract with computer systems represented by their "Master Persona Control Programs", a sort of processor and operating system as a chip., memory and storage, measured in the peculiar metric of megapulses., load speed, representing how long it would take a system to load from storage to to memory., and I/O speed for uploading and downloading data, the network not being represented as such.

In Alternity (1998), a working level of computer realism is reached. Computers are assigned with processor complexity, active and stored memory, operating systems with specified, and interface devices (including, cyberpunk-style, neural interfaces) with more realistic prices and weights compared to many previous systems. Disappointingly, most of these are presented in a descriptive, rather than systematic manner. Computers are often connected through a world-wide network known as "the Grid" which, as is common for the era, is represented as a graphic environment where "shadow avatars" engage in a virtual combat. A distinction is made between the more general Computer Operations skill, and the specialist Computer Science skill and the subskills of Programming, Repair, and Hacking.

From the mid-late eighties a number of roleplaying games were significantly affected by the literary fiction of cyberpunk and attempted to integrate notions of a rich graphic-user interface and direct neural interfaces into their games. In most cases this was conducted with little attention to realism, not just in the literary representation (which is fair enough, it is fiction after all), but also in computer design in a more general sense. An important component however which the literary fiction did bring as a realistic matter to popular culture, was the recognition that computer systems were increasingly networked, of which Paranoia must stand as the first major contributor.

Ubiquitous Computing

As the non-realistic literary elements of cyberpunk science fiction became more evident, and the relentless march of

Moore's Law continued with the development of multi-processor and multi-core systems and the advances in parallel programming, especially in the biosciences, the representation of computing and indeed humanity, was changed in science fictional representations. The post-cyberpunk roleplaying and literary review emphasised the post-human transformation along with ubiquitous computing, of which GURPS Transhuman Space (2002), Shadowrun 4th edition (2005), and Eclipse Phase (2009).

Deriving from previous designs, computers in Transhuman Space (2002) are still measured in Complexity levels, ranging from a minimum of 4 (tiny and cheap) to perhaps 10 (macro-frame with best possible processor). Each level represents a tenfold increase in processing capability to the previous level, and can run two programs equal to its own complexity level. The base Complexity of a system also determines the weight (1,000 kg max), the cost ($250000 max), and storage in terabytes. Programs have their own level of complexity and storage requirements. The setting describes a widespread network and various interfaces with a special development of AI software and default public key encryption for all communications with realistic network equipment based data transfer rates.

Also in an attempt to be reasonably close to real-world technological developments, Shadowrun 4th edition (2005) moves away from wired networks to ubiquitous wireless technology, both in terms of coverage and also with the connectivity of electronic devices on a person with a Personal Area Network (PAN). Characters access their PAN via a Commlink which can provide either a sensory enhancement, or a total immersive experience similar to previous fictional expressions. The game system has also been modified with threshold target numbers being achieved by successes based on a dice pool, with each 5 or 6 representing a success.

In Eclipse Phase (2009) the "ego" (mind and personality) and "morph" (the temporary physical body) reaches a stage of being highly distinct, with characters able (with some difficulty) to swap their morph bodies irregularly. The "ego" component may exist as backups, delta-forks, and so forth - as pure data, thus every character is, in a sense, an augmented computer. In Eclipse Phase a variant of the 'net exists with three main protocols used to access and manipulate data. These are augmented reality (AR), an overlay to the user's sensory systems, a virtual reality where physical senses are overridden by a computer-generated environment, or an experience playback, a recording of activities. The Mesh itself is a highly decentralised network where there is very high levels of data storage and bandwidth. The game pays attention to the issue of communications limited to light-speed and slower, although there is the expensive option of quantum-entanglement communicators.

Representation and Simulation

From the examples provided, roleplaying systems are typically not very good are providing a simulation of computational capabilities and computing systems, although there are some modest attempts in that direction, perhaps somewhat strangely in games like Paranoia which recognised networked systems and subsystems being semi-autonomous, and conflicting commands that can result from competitive programming on a system, and with some attempts of measurement metrics in GURPS Transhuman Space. In contrast however RPGs have provided an excellent review and expression of various literary expressions and fictional tropes according to the generation in which they were written. Indeed, in some cases they are truly the equal of the best literature available at the time; The Morrow Project, Cyberspace, and Eclipse Phase are certainly examples of this.

Finding a game system that combines this literary exactness, a worthwhile endeavour in its own right, with a game system that provides both accurate representation of computer architecture and capabilities, along with the active encouragement to develop computer network maps and pseudo-code design (e.g., Cyberpunk Hardwired) remains a worthwhile challenge that would contribute to both enjoyment and education. The future awaits such a development. Until then, it is fair to say that the computers are mainly and best represented in roleplaying games as fictional representational constructs rather than a simulation or model of capacity, real or possible.

THE REPRESENTATION OF ROLEPLAYING IN COMPUTER GAMES

by Lev Lafayette

Introduction

Just as there is a representation of computers in roleplaying games over the history of the hobby there has been a representation of roleplaying within computer games as well. Whereas the former has been a combination of an (often poor) simulation of computer systems combined with an (often good) representation of the literary fiction and speculation of such systems, the representation of roleplaying in computer games has been dependent on the programming capacity of the era for the user market and secondly the commercial genre orientation of the market. In this regard, five broad categories of games are described, roughly in order of historical development. The story begins with text-based adventure games, followed by early graphic RPGs, then MUDs and MOOs, followed by advanced graphic games, and ultimately a convergence of the two technological streams into MORPGs. A conclusion suggests that even at this level however there are certain features in roleplaying which cannot be computerised, even on a theoretical level, which suggests a future potential market.

Differentiated from real-time dexterity-based games, the player of an adventure game assumes the role in an interactive story which can be based on a narrative or as a sandbox for exploration. Because success in such games depends on criteria which are pre-established by the game's program (even allowing for random elements) in many ways the game is a puzzle, although the simulation of roleplaying is possible depending on the complexity of the dialogue and their incorporation into the game's success criteria.

Text Adventure Games

The first game of this genre was Colossal Cave Adventure (aka Colossal Cave or Adventure) first written in 1976 on a PDP-10. The original author, William Crowther, had been introduced to Dungeons & Dragons and was also a keen spelunker, based the layout and experience on the Mammoth Cave, the longest cave system in the world, but also included some fantasy elements. A further development of great note was the Zork series first written between 1977 and 1979, and the first game to become a commercial success released on a variety of early personal computing operating systems. Eventually some sixteen different Zork games would be released along with a book series.

The Hitchhiker's Guide to the Galaxy (1984) is considered the classic example of the puzzle-orientated text-based adventure game. The plot fairly much follows the novels, however the sequence of tasks can prove critical from the very start where Arthur Dent encounters the local council planning to bulldoze his house, the the notoriously difficult and critical aquisition of the Babel Fish, necessary to complete the game and with success required in a number of steps.

The relative complexity of the text parser is an important component of roleplaying representation in these game. Those which allow more than just able to apply verb-noun commands (e.g., some simple prepositions and conjunctions, such as Zork), had greater immersive quality. The complexity of text parsers for information and the depth of dialogue trees, along the maintenance of "logical space" (i.e., a path from A to B should mean the return from B to A applies) are considered critical components of text-based adventure games. A huge adventure game of this sort with a poor parser, limited dialogue range, and illogical space, is less enticing or interesting than a smaller game that pays attention to these features. Indeed these components are more important than traditional adventure-game components such as the inventory or complexity of the combat system, or in-game puzzles.

Basic Graphic Adventure Games

Some text-based adventure games made use of graphics to supplement game play. These can still be considered text-based as long as the the main interface of the gameplay was based on text-commands, such as the original Leisure Suit Larry game (1987). An impressive more contemporary example is the Gloranthan-based game King of Dragon Pass (1999) also can come under this category. Without animation in game play, this still can be classified as a text-based adventure game despite the use of illustrative artwork. It also stakes a claim as a roleplaying game as well, although echnically without an single person alter-ego, the player takes the role of the collective wisdom of the inner council of a clan, making tactical decisions, engaging in HeroQuests and so forth.

In terms of roleplaying representation the same applies for those games that have a higher level of graphical interface for movement and action. Thus classic "dungeon crawl" games like Temple of Apshai (1979), or Wizardry (1980) (whose frame-display of opponents and locations constituted advanced graphics for its time), can be evaluated not against the graphics, but rather on the interactive roleplay in the game. The same applies for follow-up games like, The Bard's Tale (1985), games like Ultima (1980, excluding the arcade-game shooter interlude!), for Rogue-like games (1980 onwards), Phantasie (1985), combination strategy and roleplaying (e.g., Sword of Aragon, 1989), various Sierra games (e.g., Space Quest (1986)), SSI gold-box Dungeons and Dragons games (e.g., Pool of Radiance (1988)), and even console game (e.g., The Legend of Zelda, 1986). As a small example, by the later versions of Ultima a virtue-based alignment system had been introduced with NPC responses on the dialogue tree varying according to the in-character language evoked by the player.
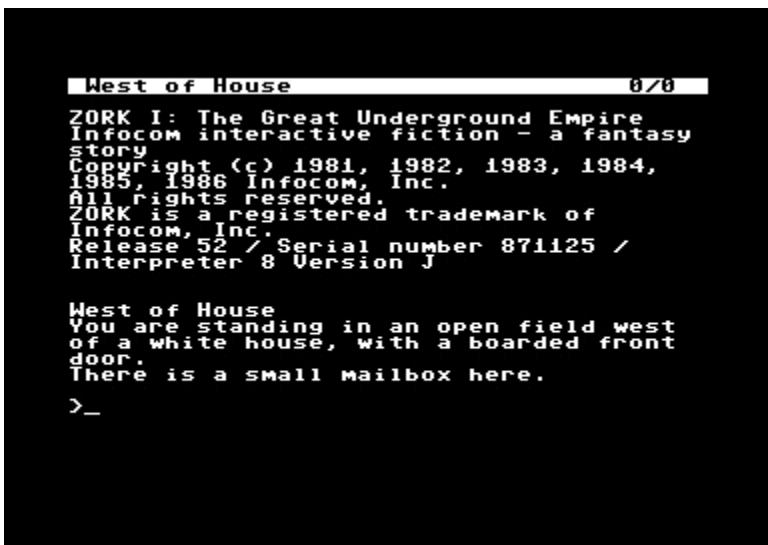
Multi-User Domains

Inspired by Zork, Rob Trubshaw of Essex University wrote a multiplayer dungeon environment in 1978 spawing a new genre and game architecture, a multiplayer real-time virtual world, combining some features of tabletop role-playing games, dungeon crawl hack and slash, competitive player versus player, interactive fiction, and online chat. The orginal game was simply called "Multi-User Dungeon", and is often referred to as MUD1 to distinguish from the genre as a whole. The game included gains in experience points until one gained a wizard level, which granted character immortality and powers over the environment.

Evolution and forks of the code-base led to a variety of other implementations, the most important giving additional emphasis on particular game features. DikuMUD (1991) and its deriviatives, for example, emphasized "hack and slash" fantasy gaming, up to an including GodWars II (2002) which combined dark fantasy with player-versus-player competition. In rather stark contrast the TinyMUD system and subsequent systems emphasised player cooperation, especially in terms of the ability of the players to create their environment. Combining both traditional gaming orientation (although with a leveless and classless system), in a medieval fantasy setting, with a high level of roleplaying expectations, even to the extent of preventing inappropriate names, was Genesis LPMud (1989). This particular MUD is still in operation (https://www.genesismud.org/). Also still in operation include derivations include Lost Souls (1990) and Ancient Anguish (1992). Lost Souls is notable for a specific Discordian orientation, and innovations such as an overland map environs, an emphasis on realistic combat, and, as character traits, varied languages.

Late Graphic Adventure Games

The term "late graphic adventure games" refer to those that have a consistent real-time graphic element along with roleplaying features, of which games like the Japanese First Queen (1994) is a notable precursor, with Warhammer: Shadow of the Horned Rat (1995) containing some elements, Diablo (1996), Blade Runner (1997), Fallout (1997), and Might and Magic VI (1998) which was also notable for its use of full motion video for cut-away scenes. The Infinity Engine games are perhaps the most well-known and complex examples (e.g., Baldur's Gate (1998), Planescape: Torment (1999), Icewind Dale (2000)).

The classification is a difficult for whilst there is an obvious technical change in game game from the turn-based text-command adventure games, there is no equivalent change in the roleplaying component in such games - just a transformation from turn-based to at least plausible real-time simulation in tactical as well as strategic movement. This is not to say that the roleplaying complexity of such games was equivalent - those featured in the Infinity Engine games were quite notable for the time - it is just that there was no obvious qualitative improvement.

The MMORPG Convergence

Massively multiplayer online role-playing games (MMORPGs) represent a convergence technology between the multiplayer text-based MUDs and the complex real-time graphics and deep dialogue trees and complex text parsers from late graphic single-player adventure games. Precursors include the pseudo-graphical MUDs such as Island of Kesmai (1985) and Habitat (1986), and the full-graphical AOL-hosted Neverwinter Nights (1991). Some of these graphical MUDs, like The Shadow of Yserbius (1991) were playable in offline or online modes. With lead designer for Ultima, Richard Garriott, coining the term Massively multiplayer online role-playing games in 1997 along with the release of Ultima Online in that year. Ultima Online was the first game to reach 100,000 subscriber-players and continues to this day. EverQuest Online Adventures (2003) is recognised as the first MMORPG to be released on a video-game console, and World of Warcraft (2004) has the highest number of paid subscribers although the free (and notably less graphics-intensive) RuneScape (2001) has twenty million accounts.

Whilst MMORPGs, like MUDs before them, are notable for sometimes ensuring that behaviour is appropriate for the setting and player-selected character profession or moral code, one of the great strengths has been the independent development of communities within the game between players. As a form of roleplaying independent of the game system, but as part of the game environment, this provides the opportunity for additional immersive experience, although metagaming issues can still arise in such cases (e.g., the notorious World of Warcraft funeral raid). The high fantasy setting of Guild Wars 2 (2012) argues that it alone among MMORPGs has a storyline that is responsive to player actions, a common feature of single-player RPGs, and certainly notably absent in MMORPGs. In addition the usual MMORPG static quest has been replaced by a dynamic equivalent as a result of this innovation.

Overall: Can Roleplaying Be Represented?

On a theoretical level various linguistic philosophers will point out that meaning and understanding can only be generated between and for conscious actors. In this regard all roleplaying systems incorporated in a computer game are dependent on existing in game established meanings with alterations and new meanings out-of-scope. Nevertheless, the complexity of this "canned roleplaying" can become extremely sophisticated with highly developed text parsers, detailed NPC behaviour, and alteration of the game environment through character actions. Out-of-system too, multiplayer roleplaying games have the ability to generate their own virtual communities within the environment itself, but independent of the game design. A more complex feature would allow for player advancement (distinct from character advancement) and control over the setting to be incorporated within the game system, although this is a feature that is relatively new in the narrativist tabletop roleplaying games. Certainly - and this is a notable reason why computer RPGs have gained such popularity relative to their pen-and-paper traditional alternatives - the incorporation of roleplaying, storyline, NPCs etc., does have a strong and successful history.

PHP SCRIPTS FOR THE TABLETOP

by Lev Lafayette

The following is a brief article on some example PHP scripts for GMs in their roleplaying games. The example is for Linux with an Apache webserver and assumes the user knows HTML. Obviously any other scripting language suitable could be used instead. The use of PHP is for the ease of browser display so one can add graphics, hyperlinks etc as desired. MySQL is added for further useful elaboration (e.g., a database of NPCs) which is not examined here.

1. Install Your Webserver

Not much detail is given here to describe how to install an webserver with php in Linux. The very short version, using packages, is as follows:

Debian distributions (Mint, Ubuntu, Debian)
```
sudo apt-get install tasksel
sudo tasksel install lamp-server
```

Red Hat distributions (Centos, Fedora, SuSE)
```
yum install httpd httpd-devel
yum install mysql mysql-server mysql-devel
yum install php php-mysql php-common php-gd php-mbstring php-mcrypt php-devel
php-xml
```

Modify your document root according your preferences and restart apache.

Test with a test.php file in your document root with the phpinfo() function.

2. A Dice Roller

Although I am very fond of the visceral experience of rolling plastic (or metal, or gemstone) polyhedrons, the following can serve to replace that experience. Name it d6.php or similar. You could also create similar pages for other die types, or variants thereof (e.g., d37+13 to give that common range of 14 to 51). That sort of idea puts the designer of the d34 to shame (yes, it does exist).

```
<html>
<head><title>D6 Roller</title></head>
<body>
<h1>D6 Roller</h1>
<p>How many d6 to roll?</p>
<form action="<?php $_SERVER['PHP_SELF'] ?>" method="post">
<input type="text" name='number' />
<input type="submit" value="Roll them bones!" />
</form>
<?php
$dice = $_POST['number'];
for ($i = 1; $i <= $dice; $i++) {
$roll = mt_rand(1,6);
echo "$roll ";
$sum = $roll + $sum;
}
```

```
$sum_of_dice = 'The sum equals = ';
print ($sum_of_dice.$sum);
?>
</body>
</html>
```

With a little bit more work you could change the variable $roll to $rolld6 and so forth and thus generate a complete dice notation engine.

3. Encounter or Treasure Display

A whole collection of these can be created; for wilderness types, villages, towns, cities, dungeon levels, treasure types etc. If you want to get fancy you could include in the text file an image of the encounter or treasure in question and have the code snippet display that instead.

```
<?php
  $file = "encounters.txt";
  $fh = fopen($file, "r");
  $string = fread($fh, filesize($file));
  fclose($fh);
  echo "<p>$string</p>";
?>
```

As a simple elaboration multiple files and multiple strings can be displayed simultaneously. For example a dungeon level text file that includes a list of encounters and the treasure that they have.

Randomness could be incorporated by specifying the lines in the file and turning those lines into a random array. e.g.,

```
$lines = file('encounters.txt');
echo $lines[array_rand($lines)]
```

4. Character Sheets

Among programmers PHP doesn't get much love, but at it does have a very low entry point from markup languages. The ability to easily combine PHP within HTML provides the opportunity to produce pleasingly formatted webbased character sheets which are easy to print.

Most roleplaying games include fairly simply functions that are easily replicated in HTML with PHP for example:

a. Random generation of numbers assigned to a variable
b. Selection of a single choice ("radio button") assigned to a variable.
c. Selection of multiple choices ("check box") assigned to a variable.
& etc.

5. Scenario Tangents in a Webpage

Why note make the effort to preprogram most of the scripted parts of a scenario, the plot trajectories and so forth? As an example one can look at the example given in RPG Review 4 in June 2009 (http://rpgreview.net/node/27) where James Hutchins gave an example of an online text roleplaying game, Age of Fable. James has kindly provided the entire source code for this game at the following URL: http://www.apolitical.info/webgame/sourcecode.php

THE DICE ARE DEAD!

by Karl Brown

Still rolling dice? Many of us now have 'dice rolling apps' on our mobile phones, tablets and laptops. Dice rolling apps are random number generators, a class of programs almost as old as computing itself. What is new is the near ubiquity of these programs, mobile phones and other portable computing devices among gamers. This has the potential to change the landscape of tabletop gaming. Here are some tentative predictions of what might be in our near future.

Buckets of Dice

One possibility is 'buckets of dice and add' systems like the old Tunnels & Trolls will come back into vogue. With an app the attack roll of a T&T dragon of 26d6+250 is now quick and easy; your phone 'rolls' the dice and does the addition in less than a second.

Unlimited Savagery?

Savage Worlds assigns attributes dice d4, through d6, d8, d10 to d12. After d12 the system resorts to adding a modifier for super human strength. Dragons are d12+9. Some 'die rollers' like Dice Ex Machina (by Toby Coulstock) allow for 'dice' of any number of sides. You could use these to continue the progression through d14, d16, etc. A dragon might roll a d22. Of coarse this makes the dragon a little more likely to slip up occasionally.

The same kind of system could be applied to Earthdawn as well.

Ubiquity/Hollow Earth Expedition

Ubiquity, the system powering Hollow Earth Expedition and the less well known Leagues of Adventure, also uses buckets of dice and count the evens. Emulate this with xd2-x where x is the number of dice. For example if required to nine dice roll 9d2-9.

It is only a matter of time before a major rpg producers has the same realisation I had this week: random die rollers free up a whole class of new game mechanics. Think about it, even with polyhedral dice we have seen roll under, roll over, roll a bucket of d6 and count the 6's, roll any a bucket of any dice and count the evens, etc. I don't think we have exhausted all the ways to use solid dice yet and now we have another tool.

I'll sketch out one example of a game mechanic now feasible because of this technology. I'm sure there will be many more. Say, I want to design a simulationist game that will include a realistic portrayal of animals genetically engineered to near human intelligence (see my article "Biophysics for gamers" and the errata for more on animals in RPG Review 9 and 11 respectively). So starting from scratch…

To begin I need a good range of values so I set typical human strength to 50. This number has a familiar feel to many gamers used to d% games and allows to much weaker creatures. It's also a good approximation of the maximum an average human could lift and carry at a stagger. I decide to cap skills at the PC's associated attribute and create a Strength Feats skill.

Since I want to deal with non-humans I need the system to be open ended. So tasks are given difficulties you must roll over. For example to lift 50kg, Difficulty=wt/2=25.

All pretty standard stuff so far but here's the tricky bit. The system is truly open ended with a linear probability profile. In linear open-ended systems scores are intuitive, strength 96 really is twice as strong as 48. Such systems enable you

to realistically score humans, apes, even jet liners for strength, speed etc. on a single scale with a unified mechanic. You can use this type of mechanic to forge relationships between real-world measurements of mass, speed, temperature etc and task difficulties. A d20 SRD game can't do this because the importance of the random element diminishes at very high values. 1d20+2 is more random than 1d20+15. A roll under with d% game has a better spread but is capped around the 100 mark and has trouble with super human power. Our new example system is dX where:

X=attribute + skill. X can be any whole number plugged into a dice app.

Our first character Jane is a rather dull clerk with strength 48 and no skill in strength feats. Jane's player plugs 1d48 into his app and rolls 31. Jane lifts the 50kg tree branch.

Our second character is Bill the Olympic weightlifter. Bill has strength 96 and strength feats 96. Bill's ability to lift a 50kg rock is rated at 192 and he is very likely to succeed. Any failure should be interpreted as a slip or other fumble.

Charles is an uplifted full-grown male chimp he has strength 240 and strength feats 22 for a total of d262. Charles' hands slip as he grasps the 50kg anvil but he rolls a 41 and manages to win his wager with a gullible backwoods human.

Our final character is K'crk a genetically engineered intelligent giant squid with strength 528 and no skill. A simple d528 roll determines success or (unlikely) failure.

All these characters can be represented by a simple unified mechanic without cludges like the GURPS 3rd 'rule of 12' or the way GURPS sometimes requires very weak characters to multiply their Strength before rolling.

Custom Dice Apps

Some games such as The One Ring already use custom dice it is only a matter of time before some creates an app for their game. Freed of the constraints of physical dice the apps could have unusual features. For example a die that rolls numbers 1 to 8 but 3% of the time comes up the 'evil eye sigil' and the player is in for terrible bad luck. What about a d20 that randomly changes colour? Roll to beat AC, if you do and die is white gain a momentary advantage modifier to your next action, red do damage, black demoralise, or if blue do subdual damage. The possibilities are endless.

A wizard did it!

Another potential use of mobile computing technology is to automate random elements. While programs to automate portions of tabletop games already exist they have never become common at the gaming table; relegated to the role as referee's helper between sessions. Anywhere a series of defined random rolls is used a program with an interface much like an installation wizard for your PC could guide you through the process pausing whenever a human is required to make a choice. Hours of work could be cut down to minutes. You could generate your Classic Traveller characters in a few minutes at the start of a session and get playing sooner.

Going a step further game mechanics could become more complex, possibly to better simulate 'reality' or to use those detailed characters generated by Char-gen apps. Tasks could be determined by multiple 'rolls' factoring in skills, skill synergies, attributes, environmental conditions, equipment bonuses, magical effects, etc. and the result spat out of a mobile app in less than a second at the game table during play.

The genie is out

I'm sure that my feeble guesses will fall short of what the interface of mobile computing and tabletop gaming will give us in the future but one thing I am certain of is that the hobby of table-top gaming will changed by the availability of portable computing devices.

PAX AUS 2013 REVIEW

by Sara Hanson

When: July 19 - 21
Where: Royal Melbourne Showgrounds, Melbourne
How much: I think the 3 day passes cost in the order of $115 each and sold out quickly. Single day passes were also available and sold out well in advance of the convention. NO tickets were available at the door.

So what is PAX anyway?
The Penny Arcade Expo (PAX) was started by Gabe and Tycho after E3 stopped allowing the general public in and it became more of a trade show again. It's a convention featuring all aspects of gaming from video games and e-sports, board games, card games, tabletop roleplaying games and cosplay. Demos of products and panels.

This was the first international PAX, it was held in Melbourne, Victoria, Australia. It was enough of a success that it sold out and before the con was even held, they were already planning to bring it back the following year. This has subsequently been confirmed by Gabe and Tycho on their website (http://www.penny-arcade.com).

The convention was managed by ReedPop in Australia and was on the whole well organised. Enquiries were responded to promptly and courteously at all sorts of strange hours in the lead up to the convention.

I first heard about PAX Aus on Twitter and the information about tickets going on sale was announced there first, a bunch of useful PAX Aus related twitter feeds are as follows:

PAX Australia @PAXAus The general feed for the convention, lots of announcements about concerts, panels and general enquiries.

PAX Australia Lines @paxaus_lines This feed specifically is used during the convention to give updates on how the queues are going and whether it's worth making a dash to try and get into a particular panel.

PAX Tabletop @TT_HQ A feed to answer questions about tabletop games in the lead up to the convention.

The Cookie Brigade @cookie_brigade The cookie brigade hands out cookies for donations. The cookies themselves are provided by volunteers, the donations are given to Child's Play, a charity which buys games for children in hospital.

There is probably also a feed for the Enforcers, a brigade of volunteers who act as GMs, guides, security or are just generally helpful. They did much of the setup and breakdown, manned the games libraries and the various ares of the show. They worked in shifts and got free entry to the convention. Normally a short while before the convention the call will go out for enforcers, you have to cover your own transport and accommodation, but it's a way to see the show if you couldn't otherwise get there. It probably helps to have attended the con before to have an idea of what it will be like before volunteering.

During the convention the hashtag #PAXAus was running at undress of messages per hour. Some panels had their own hashtags which were used to capture questions and provide feedback in realtime.

Venue:
The Royal Melbourne Showgrounds is a fairground site originally established to host the annual agricultural show. The convention was held in a number of the pavilions near the Showgrounds Station.

Because the pavilions are freestanding and it's Melbourne in winter, a number of covered walkways were erected to

minimise quite how wet and cold you got moving between buildings or waiting in queues. These covered walkways however did not make it all the way to the toilets, some of the venue entrances or some of the food vans. Warm wet weather gear is strongly recommended, especially if you are visiting from warmer climes.

There were 4 venues for panels, the main theatre seated 2-2.5k people, the smaller theatres only seated a couple of hundred. There was a fair bit of contention about the placement of some of the more popular panels in smaller rooms when the main room was not in use, such as the Bioware panel.

The queuing room is something every attendee should experience (and probably will). Australian's aren't particularly practised at queuing, let alone queuing for two hours to then go queue for something else (if there was a panel early in the day you wanted to see). On Friday morning it took nearly an hour or more for the initial queue to clear after the doors were opened. The queue filled the queuing room and out as far as the station platform. The queuing room opened at 8:00am daily and the site opened at 10:00am daily, it would fill up pretty early most mornings. It was pretty common to see a line of people make straight for coffee or the toilets once the doors opened. you may want to manage you food/fluid intake before queuing. There were thousands of people packed tightly into the room waiting to get in. Each morning inflatable beach balls were thrown into the crowd and batted around to keep us amused while waiting. There was a game of trying to get the beach balls over the signs and people were writing messages on them as they bounced around. Lots of people would be playing handheld games or simple card games while in the queue.

The pavilions were basically broken up into the PC area which had the PC Tournament and free play area and the BYOC (Bring Your Own Computer) area with a small theatre upstairs; the Big Top which had the tabletop and board games, card games, vintage consoles, handheld lounge and the food court; the Main theatre and Dropbear/Wombat theatres and finally the ExpoHall where most of the vendors were located.

One word about the handheld lounge, it was populated by a flotilla of beanbags and was one of the few carpeted areas that was quiet. It filled up quickly be late morning most days and beanbags were highly sort after. I was impressed about how gracious everyone was about finding someone to give a beanbag to when they got up to leave. The bags were awesome and provided by Chilli zone (http://www.chillizone.com.au).

Travel:
Metro ran special show trains for the morning and evening arrivals and departures. There probably weren't enough services for how well patronised they were, and there were an number of glitches which meant that quite a few trains either were cancelled or misrouted. This was a particular problem on Sunday morning when the first train got diverted to the racetrack instead and stranded for half an hour.

We took the train the first day to avoid Friday peak hour traffic and drove on the Saturday and Sunday. We arrived early both weekend days and had no problem getting a park, though finding your way out of the labyrinthine showgrounds road maze got us lost on the Saturday night, we did slightly better on the Sunday.

There is a regular tram service that goes past the show grounds, but Yarra Trams didn't seem to have put on extra services and there were apparently complaints from non-PAX customers about the crowding.

Food and Amenities:
There was quite a variety of food vans on site at quite reasonable pricing for a largely captive audience. During standard meal times the queues for these got quite long (at one point the queue for one of the burger trucks was reputedly over 45 minutes and that was before they cooked the burger). So if you want to control when you eat, pack something to eat on the fly. I'm told there were vegetarian options, there were a lot of dessert based options available. The quality on the whole seemed reasonable for van food.

There were water fountains at a few locations around the site, so it's a good idea to bring a refillable bottle rather than need to pay for drinks all day. The water fountains are outside, so if it's raining you may get a bit wet getting to them.

Toilets were another potential issue. For a change there was no queue to use the women's loos, but frequently queues to use the mens. The portable toilets brought in for the event were situated away form the main pavilions so in the rain you got pretty wet getting to them.

Panels:
A large part of the convention was the panels. They covered everything from getting into the video game industry, cosplay, anime, creating machines, parenting and introducing gaming to your kids, industry launches, tabletop game design, nerd core music, concerts, Q&As etc.. The queues for most panels were about an hour, with some of the larger panels starting the queues about 2 hours before.

I queued for 5 panels and got into 4. The one I miss rout on was particularly frustrating because we queued for most of an hour and missed out by about 4 places after a group of people pushed in ahead of us as they started letting people in.

Gaming on the Mac - Will there ever be a rainbow (Friday 11:00am) - this panel was a little disappointing to be honest. A quick show of hands identified that none of the panel actually used their Macs as their primary gaming machine, the discussion was largely around the lost opportunities of Mac gaming, such as the lack of upgradeable hardware, code optimisation and general disdain from Apple. Many of the main developers don't develop for Mac directly and port after release for PC if they bother at all, ports are often handled by Mac specific development houses and quite a few of those have closed in recent years. The panel quickly moved to gaming on iOS which was seen to be a much brighter opportunity. I'm not entirely sure what I expected form the panel, but it wasn't overly encouraging as someone who does use a Mac as their primary gaming machine and as a consequence plays only very few video game titles.

Beyond Dungeons and Dragons (Friday 1:00pm) - this panel was awesome. They came out and said that they were

probably going to make a heap of people angry and started dissing on D&D. As someone who has been playing D&D in various version and flavours for 20 odd years and is married to someone who has been dedicated to playing it for even longer and is a D&D Next beta tester, I expected to not enjoy this panel once they started, but I was wrong. Their main criticism was that D&D is primarily a conflict resolution system - where conflict is focussed on combat, and that it doesn't really support characterisation well at all. They did a breakdown of the character sheet and how much of it was dedicated to combat, non-combat skills and characterisation attributes. Then they proceeded to run through a list of other roleplaying systems which did focus largely on character rather than conflict:

Inspectres., Prime Time Adventures., Freemarket., A Thousand and One Nights., Dread., Shock: Social Science Fiction., Shock: Human Nature., Mouse Guard., The Burning Wheel., King Arthur Pendragon., Lady Blackbird., Dogs in the Vinyard., The Classic Dungeons and Dragons., Torchbearer., Action Castle

Indie Publishing Downunder (Saturday 10:30am) - we primarily went to this panel to catch up with Morgan Jaffit. I felt slightly guilty later that people who really wanted to see this panel because they wanted to get into the video games industry missed out on seat because we decided to go, about half the line for this panel was turned away. The panel was 4 experienced indie games developers from a variety of background with about 60+ years experience between them. The summary of the summary, if you want to develop games and publish and you are doing anything to get there other than making games and releasing them, stop and make games and release them. The App Store is a brilliant opportunity for indie developers that wasn't there before. They talked about how to market your game and yourself, how to get your foot in the door at existing studios.

Why So Serious? Has the industry forgotten that games are supposed to be fun? (Saturday 4:00pm) - this is the panel we missed out on, but raises an interesting question. I really would have liked to hear what they had to say, as I frequently see Hardcore vs. Noob debates online and people get so caught up epeening and forget that games are supposed to be fun and a pastime. I see this at tabletop conventions too where people tend to takes things too seriously sometimes.

Writing for Tabletop Roleplaying Games (Sunday 2:00pm) - I was expecting this panel to be about crafting enjoyable and effective tabletop scenarios, it was mostly about writing games for publication. How to get your material in front of someone who could publish you, word counts, the importance of grammar and following style guidelines if they are provided. The panel were highly experienced published game authors with multiple titles and systems under their belt. I don't think any of them were full time games designers, this is probably an important difference between the pen and paper games designers and the computer games designers, the video games guys were mostly able to make a living form it, the pen and paper guys not so much.

Tabletop Games:
I played a session of Dragon Age on Sunday morning with a pickup group, something I haven't done in years as I'm usually in a pre-made group at gaming conventions. Skill level varied, I'm not sure how much tabletop the guys had done before.

I also spent a bit of the afternoon on Sunday playing Crokinole (www.crokinole.com/rules.asp) with various people, my flicking finger got very sore and it was exceptionlly good spirited with people congratulating their opponents for good shots.

Bits I didn't do but wanted to:
Friday and Saturday nights had concerts in the main theatre from premier nerdcore acts such as MC Frontalot. Maybe next tar, but neither my partner nor I were up to spending 16 hours on site and then doing it again the next day this time around.

Cosplay, it was everywhere. I used to do a bit of costuming and some of the costumes I saw both made me embarrassed about some of the outfits I'd made in the past and inspired me to pull out the sewing machines and give it another go.

Possibly the best costly of the weekend went to the Spiderman and Deadpool duo who showed up with a different costume over their Spiderman and Deadpool costumes each day. On Friday it was french maid outfits, on Sunday Deadpool had a Ezio form Assassins Creed outfit over the Deadpool suit. I didn't see them on Saturday. There were a good dozen Chell costumes form Portal, lots of steampunk and period costume and cyberpunk and mechs. The were a few Pokemons, lots of Links and Princess Peach and even a pedobear. I really wanted to go to the panel on Cosplay, but it was against the writing for tabletop one.

Stuff I saw in passing but didn't get involved in:
There were a number of e-sports competitions held there over the weekend include League of Legends tournament play. There was also some more traditional wargaming and miniatures gaming and miniature painting, Magic the Gathering tournaments and a Pokemon championship event.

The Expo Hall had a bunch of (mostly independent) developers pimping their upcoming games. Keep an eye out for Fallen and Hand of Fate, due out on iOS and Android later this year. Both looked awesome.

Pinny Arcade (bonus round):
Gavbe and Tycho collect collectable pins, they trade these at the con. There are limited edition pins available form the merchandise stands, certain pins are only available through trading and not by direct purchase. I'm not sure if they will only trade for PA pins or whether they accept other pins, I'm hoping to find out before next year.

Tips for people planning to attend next year:
Keep an eye on the PAXAus twitter feed for when tickets go on sale. Tickets for this year's event went on sale in October last year, the 3 day passes sold out within a few days, so if you want to go get in early.
Wear comfortable shoes, you will be spending hours standing in lines.

Dress in layers, the queuing room got pretty warm, other areas were freezing, especially moving between buildings. Consider packing food and a drink bottle to minimise time queuing at food vans, otherwise plan to eat outside of regular meal times for short queues.

Plan which panels you'd like to see in advance and get in the queue early. PAX uses a guidebook app (available for both iOS and Android) which lets you see which panels are available, which theatre they are in, and to set reminders to go queue. You will need to allow at least 1 hour to queue for most panels, take that into account when planning what you'd like to see.

If you have a Nintendo DS befure to take it and have wireless turned on, you will be overwhelmed by StreetPasses. Make sure you charge your phone,tablet,handled game overnight every night. Consider packing the charger as there were a few power points around the place, but most were camped by other people who needed a boost.
Make sure your phone/table has a twitter feed to get con updates.

Certainly a very different experience to the usually roleplaying convention we attend, but none the worse for that. I'm planning to head back there next year, possibly as an exhibitor running tabletop games of some variety or running a panel on freeform(systemless) game design which seems to be a particularly Australian style of roleplaying. You never know, you may see me there dressed as some character from a roleplaying game.

THE FINAL FANTASY MMORPGs

by Damien Bosman

(The success of FFXI, the failure of FFXIV, & the hope of FFXIV Reborn)

I'm not a fan of MMORPGs. In general, the time required and game mechanics put me off. The lore and story don't interest me. For a long time I dismissed them as belonging to a certain subculture of gamers. And then came Final Fantasy XI (FFXI).
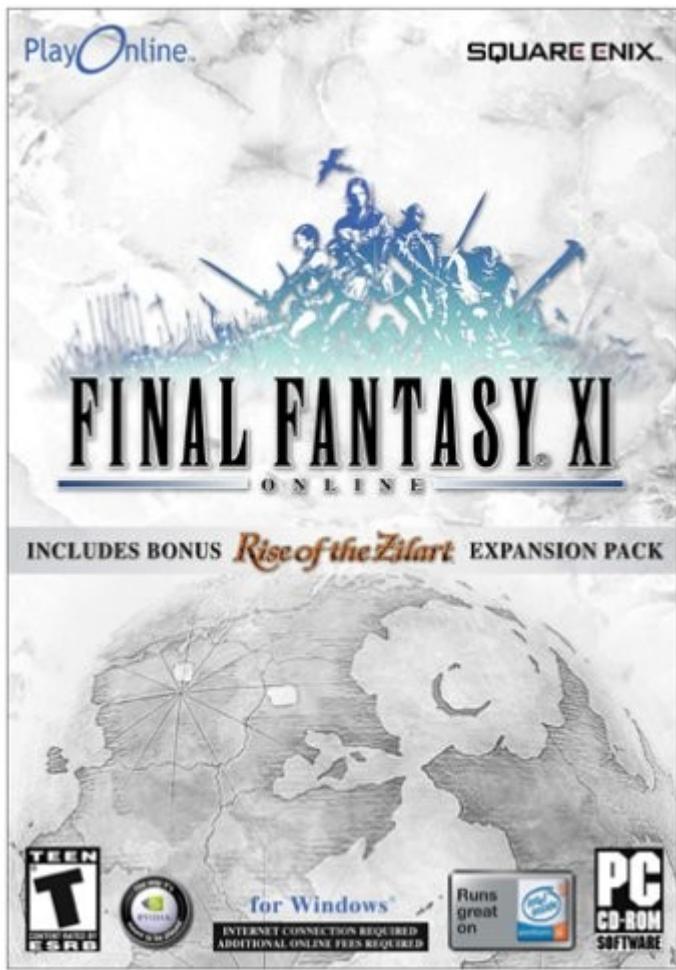
I'm a Final Fantasy diehard and I gobble up pretty much everything associated with the series. If anything was going to get me into MMORPGs it would be Final Fantasy. It took me a while before I succumbed, but finally I started playing. The lore was interesting, the story was OK (not the best, but passable), the combat was fun (at first), but what kept me around was that the game had that "Final Fantasy feel". It's hard to describe what that means to non-Final Fantasy fans but in general terms it means having chocobos, moogles, recurring monsters/summons, recurring classes, airships, wonderful worlds, well-developed characters and dramatic storytelling. Not every game in the series ticks every single box, but usually they have most of the elements. FFXI certainly did, and it kept me addicted for about a year.

FFXI (and Final Fantasy, in general) is an interesting variation on traditional roleplaying genres. It takes the core medieval tropes and mechanics from games like D&D and alters them until they're almost unrecognizable. There are paladins and monks, but there are also dragoons and gun-wielding corsairs. Alignment systems and player choice are absent in favour of a more structured story. Combat is very different, with Magic Points instead of spells slots, and battlefield strategies are far more simplistic and inflexible. This puts off a lot of traditional roleplayers, who deride the gameplay as being too simplistic. JRPGs in general are thought of very negatively by a lot of Western roleplayers but I tend to think of them as completely different beasts. Comparing the two is like comparing apples and oranges, and it is possible to appreciate both for what they are.

Lore is another key difference. D&D has always thrown in different mythologies (ninjas in a pseudo-European medieval world, anyone?) but I would argue that Final Fantasy has even more varied lore. From Shiva to Ragnarok, and mecha to tonberries (little fish-men who come at you slowly with a big, freakin' kitchen knife!), it is a bizarre yet

fascinating world.

Races in FFXI are a frustration, however. There are humans and elves, but there are also the mithra (catgirls) and galka (hunkin male meataxes). Both races play into sexist tropes and a limited and rigid sense of gender: women are small and flirtatious, men are muscular and monosyllabic. Also, you have the lalafell who are supposed to be cute, little people (I would have preferred moogles). Another point of contention was the lack of significant advantage or disadvantage to playing a certain race. One thing I like about D&D is that every race has unique features (eg. darkvision, immunities, ability bonuses). In FFXI your choice of race is mainly about aesthetics.

After about a year of playing FFXI, my initial enthusiasm wore off. Final Fantasy XI was definitely a success from a fan & financial perspective (Square Enix made a bucket load of money from it) and it had all the right elements of a Final Fantasy game - however, the trappings of the MMORPG genre really started to bug me. Combat was slow and repetitive. Level progression was mind-numbingly boring (grinding). You couldn't do anything in the game without a party. Finding party members could take hours. Nor could you take a break when in battle or exploring with a party: after all, you'd already wasted time finding members and now you just wanted to play the game before someone buggered off! And finally, the nail in the coffin: other players.
In MMORPGs, just like in social media, you have to deal with the realities of unfiltered communication. People have anonymity, therefore many people feel they can say whatever bigoted crap they feel like without repercussions. Or they can simply be mean, arrogant or judgemental. God help you if you don't have the optimal DPS! Players will nitpick you to death if you don't play your character the way they would. Total strangers will pass you by and say in the chat window: "Oh, I can't believe he is using that weapon combination. Ugh." I tried to solo as much as possible, but even then it was almost impossible to avoid these nuisances in FFXI. So I quit, determined that I would never play a MMORPG again.

Then along came Final Fantasy XIV (FFXIV).

Early information on FFXIV offered a promise of beautiful graphics (which it delivered), a great story, engaging and varied combat, ability to solo play, that "Final Fantasy feel", and more moogles than you can poke a stick at it (not that you would, because they're so damn cute). It had me interested. Perhaps this was a Final Fantasy MMORPG I could get into, long term. I planned strategies for dealing with the inevitable idiots, and my excitement rose as the release date approached. Surely, this would be the online Final Fantasy game of my dreams! And then….oops. There was nothing to do. I enjoyed it for a while but it was clear that Square Enix had released the game half-finished. The story was dull and went nowhere. Quests were few and far between. Getting a party together when needed was a nightmare. The combat was enjoyable but laggy. Monster difficulty changed enormously from patch to patch. Most of the time was spent grinding rather than actually engaging in the lore and story.

There were some bright spots, however. I really enjoyed the move away from traditional Final Fantasy jobs like Monk, Warrior, and Mage. Instead, FFXIV tried a unique approach by having Pugilists, Marauders, and Conjurers. This made it feel different from FFXI and other Final Fantasy games before it. The allowance for players to play solo was much appreciated, as was the ability to navigate boss fights using diplomacy (albeit a very simplistic form of it). Teleportation for everyone was extremely welcome (only White Mages could Teleport in FFXI) given the annoying amount of time it takes to walk places in MMORPGs. Unfortunately, the game was still a case of the bad outweighing the good and these positives were not nearly enough to make the game worthy of a true Final Fantasy title.

It was clear from the reviews that it was a flop. Reviews are always subjective but when every review rating is around 3/10 or D-, it is hard not to believe there is an objective truth about the game. Square Enix had to do something. First, they tried extending the free trial period. Then, they tried assuring the consumers that the problems would be fixed as quickly as possible. In the end, customer satisfaction/confidence was so low that they did what I believe no game company has ever done before: they took a huge financial risk and decided to scrap it and rebuild it entirely from the ground up. Many of the staff involved with the game were sacked or re-assigned. The director 'stood down' and a saviour emerged from the ashes: Naoki Yoshida ('Yoshi-P' to the community). His resume was sorely lacking, but

what he lacked in experience he made up for with charisma, passion, and dedication. His openness to fan feedback and keeping the community informed along the development cycle has made him very popular. His ideas and philosophy about making FFXIV the game it should have been all along are inspiring. The game will be re-branded as "A Realm Reborn: Final Fantasy XIV" (ARR) but I imagine eventually it will go back to just being called "Final Fantasy XIV" (once everyone forgets the nightmare of the original release). The game is currently in beta testing and the release date is set for August 27th.

From trailers and interviews, ARR looks amazing. Combat is fast, finding a party is super easy, there are quests aplenty, and it has that "Final Fantasy feel". I'm very glad to report that there will be catboys and female meataxes! Also, limit breaks are making their Final Fantasy MMORPG debut. Limit breaks are an interesting concept in which you gain the ability to perform a super powerful attack when you are near death. They are common in traditional Final Fantasy games but have never been used in the online games. It will be interesting to see how they integrate into the MMORPG world; my concern is that they will be too powerful. Taming and summoning monsters also makes its return after being absent from the original FFXIV release. One of my favourite aspects of the Final Fantasy series, summoning allows the player to defeat a god-like being and then recruit it to fight for you. There is nothing like being on your last legs and then summoning a big powerful lava-creature to save you.

In terms of technical details, ARR will also boast a re-designed interface capable of running on both low-end and high-end computers. The original FFXIV release needed a powerful machine in order to function properly, so this is a welcome addition. There will also be more servers worldwide to deal with lag issues. Previously, all servers were located in Japan. Now there is also a North American data centre which will spread the load and allow players to connect to their closest geographical server.

All my issues with MMORPGs in general and the first FFXIV seem to have been addressed with ARR. It is looking like it will be the online Final Fantasy game of my drea…….oh, wait, I've been here before. A certain phrase about 'chickens' and 'hatching' now comes to my mind. Oh well, at least 'hope' and 'eternal' are somewhere in there too.

ON FIRST READ: STAR WARS – EDGE OF EMPIRE

by Aaron McLin

Interest: Star Wars: Edge of the Empire is not a fully-fleshed out Star Wars game setting. It concentrates exclusively on the margins. Players looking for a broad variety of character backgrounds and themes may be disappointed; most especially those looking to utilize Force abilities. (While it is possible for PCs to start the game with Force powers, this does have its drawbacks.)

Layout: There is a small "Read This First" booklet that comes tucked inside that contains a short piece of fiction, an example of play, and a brief backgrounder on the Star Wars setting. The rulebook proper is divided into 13 chapters, starting with an introduction to the mechanics of the game, then dealing with creating and fleshing our characters, combat, spacecraft and other vehicles, the Force, game mastering, then progressing into detailing the setting and ending on a short introductory adventure.

Mechanics: SW: EOTE uses a dice pool mechanic that relies on a set of custom dice printed with various symbols. The custom dice are not strictly necessary; they can be simulated with common 6, 8 and 12-sided dice, but players may have to be careful about separating them. Percentile dice are also used in some situations. A player normally rolls a total number of Ability Dice (d8) equal to the greater of a character?s Characteristic or Skill, with the lesser value representing dice Upgraded to Proficiency Dice (d12). Opposing these are Difficulty Dice (d8), which, if Upgraded, become Challenge Dice(d12). Outside influences that play a part in the outcome are represented by six-sided Boost and Setback dice. Positive dice will yield Successes, which are needed to prevail at a task, and Advantages, which result in other opportunities or positive outcomes. Negative Dice will result in Failures and Threats, which result in setbacks or negative consequences.

Proficiency and Challenge dice may also yield Triumph and Despair, respectively with count and both a Success or Failure AND a 'super' Advantage or Threat. Successes and Failures cancel, but Advantages and Threats do not - a single die roll can therefore lead to a number of different effects. Tokens to track each of these results may come in handy, especially if the table is short on dice. Results other than Success and Failure manifest as points that can be spent for certain outcomes, although excess Successes may also sometimes be used to enhance a result. The final die type are Force Dice, which both govern the generation of Force for Force powers, but also set the starting state and total size of a Destiny Point economy. Destiny Points come in Light Side (for the players) and Dark Side (for the GM). There is no substantive difference between the two ? it simply makes it easier to keep track of who ?owns? how many

points at a given time. Destiny points may be spent for a number of different mechanical or narrative effects. When players spend points, they flip polarity and are given to the GM, and vice versa.

Between differing Species, Careers and Specializations, player characters may be a fairly diverse lot, even if the confines of the setting do tend to enforce certain limits. One balancing act that groups may find themselves dealing with is party size as certain mechanics of the game favor smaller groups.

Playability: SW: EOTE is a fairly rules-heavy implementation, and this means that there are a lot of moving pieces to keep track of. While it doesn?t get to the level of a tactical roleplaying game, there are a number of options in combat, and any number of things that are purely cosmetic in many games are given mechanical effects. At the same time, the overall levels of detail and mechanics are variable.

Campaign Setting: Player characters are assumed to be Han Solo-types (which may explain why he appears in so many of the game's illustrations), marginalized characters working on the fringes of the Galactic Empire, free agents independent of both the Imperials and the Rebel Alliance, trying to stay out of (too much) trouble, and attempting to pay off (or outrun) their debts. Each PC also has Obligation, to one or more parties. While individual obligations (monetary or otherwise) can be discharged (or deepened) during play, the rules do not allow for Obligation to ever drop to 0. Regardless of the specific nature of a PC's Obligation, the mechanical effects are the same. Because Obligation tends to operate on the group as a whole, larger groups tend to feel Obligation more keenly. Access to the Force is limited and use of powers will be inconsistent unless PCs make liberal use of the Dark Side; Jedi PCs are outside the scope of the rules as written. PCs are generally assumed to be mobile, one or more characters owning a starship and/or some fighters between them for transport.

The book appears to presume a certain level of knowledge of Star Wars canon, especially of the various alien species. Of course, there are a number of things that are obvious, but a lot of the details are glossed over, and this makes the overall setting seem bland and shopworn in places if you aren?t already aware of them.

The sample adventure presented at the end of the rulebook is fairly rote and unimaginative, common fare for many RPGs, but a bit thin in the options department for characters who are supposed to be eking out an existence on the margins by their wits. Also, players are likely to find the ending a bit frustrating. While it?s nothing unprecedented, and it makes perfect sense within the context of the overall theme of SW: EOTE it may prove discouraging for new players, especially younger ones.

Editing: The book is well-edited, with only a couple of obvious errors. However, there are a few inconsistencies and omissions that crop up here and there, and in a few places they lend the game a feeling of having been written by committee. Certain items that seem like natural fits are left out; although the game specifically mentions using ?The Economy as an Adventure Hook,? and encourages GMs to be stingy with cash in a side bar called "Keeping the Crew Hungry", there is no mention of upkeep costs or lifestyle expenditures which would serve such purposes.

Artwork: The whole of the volume is liberally sprinkled with full-color artwork by a wide variety of different artists. The exceptions to this are the equipment illustrations, which are primarily line drawings of items in profile. The artwork does a fairly good job of being evocative of Star Wars, but most of the heavy lifting in this respect is done by the iconic alien races ? it would be difficult to mistake them for generic science-fiction creatures. Illustrations designed to illuminate the game?s frontier setting are rarer. Much of the art is relevant, at least in a general way, to the text at hand, but only rarely seems to be directly linked to it. One minor issue is that illustrations are not captioned (save for the pictures of allowable PC species), and so while any number of different sentient and animal species are depicted, readers who are unfamiliar with them won?t know what they?re looking it, depriving them of the opportunity to learn about the setting and add color to their descriptions.

USING "RAND" FOR BRAINSTORMING

by Jim Vassilakos

Back in the dark days of MS-DOS, I used to do some programming as a hobbyist, and some of the programs I wrote can be still be found at http://mypbem.com/Vassilakos/index.html, where they were fortunately archived by Eris Reddoch. (Note: If you want to run any of these, I'd suggest you also get a free program called dosbox, which you can download from www.dosbox.com.) In this article, I'm just going to talk about just one of these programs, a little "random stuff generator" called Rand.

Rand is basically a brainstorming device for lazy GMs. It been so long that I can't remember where I got the idea for the program, but it might have come to me while I was skimming through the Central Casting series by Paul Jaquays. Those with a long memory might recall these books. They were aimed at helping roleplayers generate a life-history for their characters, and to this end, they were chock-full of random tables that were interlinked. When I say interlinked, what I mean is that a particular result from one table might refer the reader to another table somewhere deeper within the book, and then this sub-table might do the same, and this could happen again and again until a final result was reached, at which point the reader would go back to the original table that sent them down this chain of sub-tables. For example, one table might say that the character has a pet. A pair of sub-tables might indicate that the pet is a white mouse. Yet another sub-table might indicate that it's intelligent, the result of a magical experiment gone awry! But not all the details are necessarily spelled out. For example, was the mouse simply imbued with intelligence, or was it originally, say, a human being, or perhaps even something more interesting... say, a dragon? You get the idea. One idea leads to another, which then leads to another, and before long, you have this big pile of details that you somehow have to massage, mash, or otherwise manhandle into a background story.

What a remarkable book, I thought to myself. There were two problems, however. The first was that it was a bit slow to use. I remember using Central Casting: Heroes of Legend in one campaign, and the time spent on character generation easily doubled. Half was for dealing with the game rules and half was for dealing with the background. That meant that we couldn't start gaming until the following session, which kinda sucked. Sure, we got more detailed characters as a result, but it took time and a lot of dice-rolling. Lots and lots of dice rolling. The second problem is that some of the results just didn't fit very well with the particulars of the campaign, so those specific results had to be either modified or thrown out entirely. No big deal, but it bears mentioning.

So I thought to myself, this whole process is just begging to be computerized. After all, what we're doing here is basically mechanical. Roll dice, consult table, write down result. Roll more dice, consult sub-table, write down result. It's basically a computer program in the form of a book.

So I emailed Paul Jaquays and straight-up asked him if I could computerize the Central Casting series, and he said no. He didn't want me to copy his tables into a program. He wanted people to buy the books. Well, that was more or less the response I was expecting. If such a project were ever to be undertaken, he'd want to get some money out of it. After all, he did put in a lot of effort to create those books.

In any case, I figured that I didn't really need his tables. I could just make up my own. So that's basically what I did. And after I got done with the character background generation part, I thought it myself, there's a lot of other applications this could be used for. I could use this program to create random dungeons. I could even use it to create whole regions of my campaign world. Heck, I could even use for science-fiction roleplaying, such as designing alien races. There were so many potential uses that my mind began swimming with the possibilities, and creating random tables is pretty darn easy. Yes, it can become a bit time-consuming depending on how deep you want to go with it, but you can write up a short table in just a few minutes. So I started attacking these aforementioned projects, but... and I stress this... the potential applications of this program have barely been scratched.

Now, rather than regurgitate the specific instructions for using Rand, which are included with the program, I thought that maybe instead I'd just show you some actual examples of how I've used it. That way you'd get a more specific idea of what the program does and how you can use it in your own campaign. Be forewarned, however, that while Rand solves the first problem, the problem of speed, it doesn't solve the second one, the problem of interpretation. You can churn out a big pile of output with the push of a button, but the real art is in integrating the details together to create a cohesive story. That's the hard part, and so that's what I'm going to demonstrate for the remainder of this article.

Example 1: Crabby (a random character background)

Program Output:
Ten Names: Crosby, Berlay, Morag, Parr, Econometrica, Idinck, Martis,
Merle, Cindy, Shayera
Social Status: Poor
Primary Caregivers: Unrelated Guardian or Orphanage
Possible Personalities of Caregivers: greedy, greedy
Brothers & Sisters: No siblings
Possible Personalities of Siblings: friendly, organized, violent
Event: Character learns a skill
Skill: Musical Instrument
Event: Natural Disaster
Type of Disaster: Earthquake
Event: Character is hired
Skill: Stonemasonry

Interpretation:

Crabby doesn't know who his parents were. As far as he's concerned, he doesn't have any. Somehow, years ago, he was left as the doorstep of St. Berlay's, an orphanage for young ragamuffins. Though existing ostensibly on donations from the community and the crown, the orphanage has also made a tidy sum by putting the children to work, although, of course, making money was never their primary objective (or so they say). Suffice it to say that the children of St. Berlay's were made to work sixteen hour days more to instill in them a strong work ethic in preparation for their future lives.

Crabby, of course, didn't understand any of this at the time, and earned his nickname by being the most irritable morning person in the orphanage's history, going so far as to feign death on more than one occasion. Though he has no brothers or sisters, he did make some friends at the orphanage, namely Morag, Parr, and Eck. Morag, despite being a dwarf, was perhaps the happiest of the children at St. Berlay's. He had no problem working sixteen-hour days and often remarked that he'd be perfectly happy working more if only someone would pay him. Parr, the halfelf, was strangely the most organized, trying to play leader of the workgang when their grownups weren't paying attention. And then there was Eck, the half orc bully, who spent his earlier years beating on everyone until finally, at some point, he got it into his head that they could all gang up on his and really kick his ass if they wanted to, at which point he began directing his testosterone outside the group rather than within it.

Crabby eventually took up playing sticks & stones, a form of street drumming, during their midday break. Of course, street drumming is not only for entertainment but is also used for communication among thieves and beggars, and so Crabby and his gang of orphans eventually began serving as lookouts for the local thieves guild, earning small favors as well as a little bit of coin on the side. Late in the fall of last year, however, the city was nearly reduced to rubble by a major earthquake caused by a local mage who took his experiments too far (and was promptly lynched for his trouble). As a result, Crabby's entire gang have been moved outside the city and into the quarries where they all work as stonecutters. Word has it that the orphanage administrators are making out like bandits off their labor, and Crabby has

an idea where they're keeping all the money. Very soon he and his gang will be discharged and cut loose since they are nearly of age, and when that happens, he worries about what they'll do to survive. Pulling off a heist against his own orphanage is looking like a better idea every day that he thinks about it.

Example 2: Yorick (another random character background)

Program Output:
Ten Names: Melisandre, Abrstin, Pronos, Tammany, Pagetti, Knik, Dubhthach,
Yorick, Huggins, Harq
Social Status: Wealthy
Primary Caregivers: Mother & Father
Possible Personalities of Caregivers: alcoholic, diplomatic
Brothers & Sisters: 4 siblings
Possible Personalities of Siblings: courageous, courageous, trusting
Event: Character is hired
Skill: Weaponsmithing
Event: Character becomes a criminal
Crimes: Mugging
Results: Character goes to prison
Type of Prison: Magical
Prison Event: Injured
Event: Natural Disaster
Type of Disaster: Fire

Interpretation:

Yorick was born to a wealthy family in the free city of Abrstin, situated between the borders of the Kingdom of Dubthach and the lands of the Knik. His father, Sir Andre the Wise, was an ambassador to the city, sent by King Pronos of Dubthach. His were a warrior folk who had colonized the western marches long before Abrstin was ever founded, and it was only with the protection of the King's predecessors that Abrstin was able to grow and prosper despite being on the edge of territory claimed by the Knik hordes.

Yorick's mother, Melisa, raised Yorick as well as his two older brothers nd two younger sisters in their tower along the city's west wall, however, in a trip to see her dying father, her caravan was raided by Knik barbarians, and she was slain, along with her two oldest sons. This left Yorick, the middle child, successor to his father's title.

Unfortunately, with the loss of his wife and his two eldest boys, Sir Andre the Wise took to the bottle and was soon known as Sir Andre the Drunk. His antics eventually became an embarrassment to King Pronos, and he was stripped of his title and forced to abandon his tower to make room for the new Ambassador.

By this point, Yorick had already begun training as a knight, but the change in his father's status forced him to abandon this goal and instead work as an apprentice weaponsmith. During this time, Andre returned to Dubthach with his two daughters, Tami and Paige, to petition King Pronos for reinstatement, as well as to try to get the daughters married into good families.

Alone for the first time in his life and angry at his father, Yorick fell in with the wrong sorts of people, and soon, after his workday, he would spend the night with his new friends, raising hell and occasionally mugging people.

It wasn't too long, however, before he tried mugging the wrong person. This resulted in him getting beaten nearly to the

point of death. He woke up in Abrstin's dungeon, and in his weakened condition there, he could scarcely defend himself against the other prisoners, some of whom he had mugged during his recent life of crime. Hence, beatings became a daily ritual which he learned to endure. Breaking out, after all was not an option, as aside from stone and mortar, there were also magical wards placed about, making escape completely impossible. Furthermore, while they were in work gangs outside the prison, they were completely chained and well guarded.

It was only during a massive assault upon Abrstin by the Knik, during which half the city was set ablaze, that the opportunity to escape was literally handed to him. It was on that day that the prison itself came under attack, and when the Knik warriors came in, rather than letting the prisoners be slain, the guards simply opened the cells and allowed the prisoners to take up weapons. In this way over a hundred prisoners, including Yorick, managed to escape during the ensuing chaos.

Now Yorick journeys to Dubthach to find his father and see what has become of his sisters. Unfortunately, he realizes that word of his incarceration may have preceded him, and due to long standing treaties, he may be forced to return to Abrstin to finish his prison sentence if he is ever caught. Hence, he travels under an assumed name, keeping to himself and resorting to odd jobs as well as thievery and mugging to earn his way.

Example 3: The Dallpen (a random alien race)

Possible Racial Names: Dallpen, Brakenholm, Metellus
Homeworld Gravity: High
Natural Habitat: Jungle
Size: Tiny
Basic Design: Bilateral
Legs (locomotional appendages): 2
Leg/Foot Structure: Unguligrade (Walks on toes supported by pad like
elephant or rhino)
Arms (manipulatory appendages): 2
Arm Joints: 2 (shoulder/elbow)
Fingers (manipulatory digits): 7
Wings: None
Tail: No
Skin texture: Smooth
Skin Color: White
Skin Patterns: None (solid)
Number of Horns: 0
Number of Eyes: 2 (short visual angle but good depth perception)
Eye stalks: No
Visual Sensitivity: Infrared
Number of Ears: 1
Audio Sensitivity: Sharp (able to hear faint sounds)
Smell/Taste: Excellent
Poisonous Sting: No
Diet: Carnivore
Sexes/Castes: 2 (f/m, males rare, each is owned by a group of females)
Male Genitalia: External
Birth: Live birth
Liter Size: Small (1 3)
Feeding of Young: Milk glands on mother
Language: Vocal (similar to human speech patterns)

Cybernetics: Uncommon (up to minor accessories such as voice comms)
Society: Restricted Monarchy
Control: Moderate
Status/Power: Slave race (captive associate, powerless, fully controlled)
Commonality Outside Home Territory: Very rare
Friendliness: Conservative (business like but impatient)
Demeanor: Agreeable (ultra polite, will rarely speak openly/honestly)
Specialty: Starships
Recent Event: Tournament

Initial Thoughts:

The first thing that jumps out at me is that the program says they're tiny, but it also has them walking on padded toes, usually a feature of heavy animals. Granted, their world's gravity is high, and being descended from jungle inhabitants, perhaps their padded toes are a defensive mechanism against attacks from poisonous plants and smaller jungle critters.

Secondly, the program has them building starships for which they'd presumably need either large brains or the cybernetic enhancements to make due with small ones. I understand that some people may quibble with this assumption, so let me explain it further. My reasoning may be a bit anthropomorphic, but is boils down to the so called encephalization quotient or brain-to-body mass ratio. The basic idea here is that as an organism gets bigger, it needs more neurons to handle the basic business of staying alive, like breathing and such. On Wikipedia, there's a chart that compares the brain-to-body mass of various animals (http://en.wikipedia.org/wiki/Brain-to-body_mass_ratio). Humans don't have the highest brain-to-body mass, but for animals of our size and above, only one comes even close: the elephantfish, which probably uses a good chunk of its brain for the interpretation of bio-electrical signals. There are smaller animals with a larger percentage of brain mass, but there are no larger ones.

So could you have a rat, let's say, with a really huge brain? Sure, but it might have a hard time carrying it around. Most likely our little Einstein rat wouldn't be able to get enough to eat to support his huge noggin, let alone squeeze his head into a burrow when he's being chased. In short, to be naturally smart, the animal needs to be big enough to support the care of feeding of a large brain. I'm just doubtful that a tiny animal would be able to do it unless there were some special circumstances making it more likely.

Hence, the only other thing I can imagine is that the brains of these aliens are the work of design rather than evolution, and hence perhaps can pack more raw intellect into less volume. Assuming this to be the case, we're looking a product of genetic manipulation.

Thirdly, I sort of have a problem with the way these guys look. At least structurally speaking, they look a lot like we do. It is not too often that the program generates a creature with two arms, two legs, two arm joints, and two eyes, so I'm afraid that you're not going to get a feel for the weirdness that usually results. Nonetheless, I'm going to roll with it and see what happens.

Fourth, there seems to be a potential for joining some of the physical, psychological and social attributes into an interesting synthesis, a sort of nexus that can give this species a story by which they might be better understood. This is something I look for every time I generate a random alien, so I'm pleased to see it here. I'm looking mainly at the fact that the females seem to run the show, and also at the excellent sense of smell. Creatures with such an excellent sense of smell tend to be highly territorial, or, at least, the dominant gender (usually the male) is this way. Yet these guys are apparently psychologically agreeable. In short, they seem to be anything but territorial. Proceeding into the social dimension, they're also a slave race. Given that we're already assuming some degree of genetic manipulation, why not also assume that their psychology and, in fact, their whole society has been manipulated as well? Perhaps, by carefully selecting which males are allowed to breed, the race has been psychologically conditioned away from territoriality and confrontation and toward a demeanor highly amenable to subjugation (similar to what humans have done to dogs). In

this way, they might be slaves who prefer slavery to such an extent that they consider their masters to be their best friends in the universe.

A fifth and final thought, before I begin this travesty: There's an alien species on pages 86 87 of Patrick Huyghe's Field Guide to Extraterrestrials which is based on a supposedly 1951 encounter by Illinois resident Harrison Bailey. Bailey, a steelworker at the time, purported years later to have encountered a number of short, walking amphibians who briefly took him captive. Because the program has generated this guys to be short, basically humanlike in structural design, and descended from a jungle environment, it seems to me that I might be able to draw a bit from this supposed encounter, although I'll have to change the color of their skin from solid white to brown and striped if I want to stay consistent to Bailey's description of them.

Preliminary Write Up:

Brakenholm is a large, terrestrial world in the Metellus system. It is the homeworld of the Dallpen, a small humanoid species which fell under control of the Hafaru during their territorial expansion.

Physical Characteristics: The Dallpen are fairly small, only around eighteen inches (45cm) on average. Normally, such a small species would never have developed intelligence, so their genetic manipulation by the Old Ones, even at first glance, is most obvious. Humans find them somewhat "froglike" in appearance, their bellies tan, dark brown mottled stripes covering the back and limbs. Structurally, they are very similar to humans, being consistent with the sorts of creatures the Old Ones preferred to uplift: Two arms, two legs, two eyes. Their feet, however, despite initial Solian descriptions of the species dating as far back as the 1950s, are heavily padded, allowing them to sprint as well as aiding them in jumping from trees. Likewise, their seven fingered hands are ideal for grasping tree branches or manipulating objects in their natural jungle environment.

Natural Senses: Bred to be starship engineers, their vision extends naturally into the infrared wavelengths so that they can easily discern temperature fluctuations, a sure sign of impending power leaks and other containment breaches. Likewise, instead of having two or more ears, a common feature of many naturally evolved species, they have only one, a finely tuned subdermal ear in the area of their forehead which they often press to various parts of mechanical systems in order to aid in diagnostics. As for their sense of smell, that is handled by their long snake like tongue, which can discern scent so well that they can identify individuals by smell alone and can often tell which among them has recently been in a particular area.

Society: The Dallpen are matriarchal, using chemistry to ensure that some 99% of all births are female. The remaining males are kept solely for their breeding potential, and most of these are housed at facilities controlled by the Queen Mother. This queen descends by blood lineage from the original queen crowned during the time of the Emancipation when the males of the species were nearly all killed through targeted biological warfare. Although originally highly warlike, the Dallpen have since been bred to be more cooperative, a genetic conditioning program that the Hafaru have continued into the present day.

Interspecies Relations: The Hafaru claim the Dallpen are a free species and a close friend of the Hafaru race, yet the Dallpen are in reality, for all practical purposes, slaves of the Hafaru. Their genetic and psychological programming has conditioned them to defer to their Hafaru masters in all matters. Noting this fact, the Coalition Assembly has refused to offer them a seat, regarding them as merely an arm of the Hafaru. However, there are said to be some Dallpen who have somehow broken free of Hafaru control, although such members of the race are certainly a minuscule minority and likely live in fear of being discovered. Needless to say, the Dallpen often serve on Hafaru starships as engineers, and they, of course, also build ships for the Hafaru fleet. Also, on a regular basis, they hold a tournament of starship design, where the best design will usually go into production. In this way, the Dallpen continue to stay focused on what they do best.

Afterthoughts:

Obviously, I didn't touch on all the points of Rand's output. This write up could (and probably eventually will) be expanded to cover the Dallpen is a more comprehensive way. Likewise, the Huyghe book mentions their control over a species of small bugs. I'd imagine these bugs might be useful for making repairs in very tight areas. In any case, I think this gives enough material to make the alien usable while at the same time leaving enough loose strings that later expansion is, I think, almost inevitable.

These examples hopefully gave you a pretty good idea of what the program does and how you can use it. All in all, I still think the possibilities are essentially limitless. The main problem is that depending on how you write your tables, it may end up generating a lot of inconsistencies. These will have to be fixed or somehow explained in the output interpretation, which, as I said, is where the real work is done. In the example of the Dallpen, I think I was able to explain away the most obvious inconsistencies, but it's not always so easy.

Now, before you go to download the program, I want to point out that there's a slightly updated version at http://games.groups.yahoo.com/group/MGT-Aids/files/CLASSIC%20TRAVELLER/. What happened is that a few months ago, Jeff Zeitlin kicked off a discussion on the Traveller Mailing List regarding an article he'd received for Freelance Traveller from Mark Barner regarding the creation of a universal patron/mission profile. What we're basically talking about here
is random adventure creation. So I wrote up some tables for Rand based, in part, on the ensuing discussion, and... well... I'll just give you another example. This is the last one, I promise.

Example 4: This Old Drone (a random traveller adventure)

Mission Type: Acquire an object
Alternate Mission Type - Verb: Put or Deliver
Alternate Mission Type - Object: Child/Descendant
 Possible Names: Darious, Adonis, Robertson
 Race: Droyne
 Profession: Merchant
 Retired: No
 Gender: Female
 Age: Elderly
 Geographic Home/Culture: Near (some accent)
 Level of Attractiveness: A 4 out of 10
 Apparent Wealth: Destitute (on public assistance)
 Initial Disposition: Furtive
  STR: 7
  DEX: 12
  END: 4
  INT: 7
  EDU: 8
  SOC: 3
Apparent Difficulty: Moderate
Payment: Reasonable
Support: Intel
Mission Complications: The patron doesn't realize it, but things are harder
than they at first appear.
The following information is about the patron.
 Patron Involvement: Periodic Updates

Relationship: Saw your ad on craigslist
Type of Contact: Direct
Interest/Motivation: Charity
Reputation: Moderate (a date-worthy credit score)
Possible Names: Varin, Missy, Caladon
Race: Human
Profession: Scout
Retired: No
Gender: Male
Age: Middle-Aged
Geographic Home/Culture: Local
Level of Attractiveness: A 6 out of 10
Apparent Wealth: Middle Class
Initial Disposition: Uncertain
STR: 4
DEX: 6
END: 11
INT: 7
EDU: 9
SOC: 9

Initial Thoughts:

None of this initially made any sense. The mission was either to acquire an object or to deliver a female Droyne child, who just so happens to be elderly. An elderly child. It made no sense. I was about to delete the output file, but then it hit me... what if the Droyne isn't alive anymore. What if she's so elderly that she's a museum piece. I mean, King Tut is technically an elderly child, right? And weren't the Ancients technically Droyne? So what this adventure is going to revolve around is this really old corpse. I ended up chucking most of Rand's output. It wasn't really that useful. All that mattered to me is that the program gave me this little nugget that I could run with. Incidentally, I should probably mention that the whole reason I was doing this was because P-O "BeRKA" Bergstedt was asking for submissions for his annual 76 Patrons Writing Contest over at The Zhodani Base (see http://zho.berka.com/2013/07/01/the-zhodani-base-76-patrons-writing-contest-2013/and http://zho.berka.com/2013/09/18/16-new-patrons-this-year/). Hence, I figured I'd use Rand to help me come up with an entry. So here it is:

Patron: Noble, Agent
Required Equipment: Grav Vehicle or Small Craft
Location: (Foreven 1416) Ile Danse A56A756-B Ri Wa 404 Na

Players' Information:

"It's the mother of all heists," Marco smiles, looking at the PCs with a mischievous grin. "Thirteen-and-a-half million and the thanks of the Countess of Jewell; don't tell me you're not interested."

Back during the 5th Frontier War, Marco explains, Zhodani marines occupied Jewell and stole what is famously known as the Joconde artifact (named after the starship that found her). It is no less than the actual body of what some scholars believe was once a member of the race of beings known as the Ancients. The body itself appears to be a normal Droyne female, a member of the drone caste, who it is believed died during the "final war" after her ship was destroyed. Being hundreds of thousands of years old, she has been perfectly preserved by the vacuum of space and was maintained in a vacuum chamber prior to her unlawful appropriation from the Museum of Fine Arts and Antiquities at Jewell.

The Joconde artifact was on loan from the estate of Helena Stavelot, the Countess of Jewell, and as such was insured by Lloyds of Lunion. However, Lloyds refused to honor the insurance policy (worth MCr 13.5!), claiming that the theft was an act of war. In order to retain the museum's business, Lloyds made a good faith effort to buy back the artifact from the Zhodani Consulate, but the Consulate refused to sell, explaining that such artifacts "belong to the ages" and thus cannot be possessed by any individual but rather must be held in trust by a collective body, such as the Zhodani Consulate, which represents the interests of civilization itself. Thus, not only did the Zhodani steal the artifact, but they, after the fact, stated that the Imperial system of government is illegitimate and fit only for barbarians. Needless to say, the Imperium was displeased.

Now the Joconde artifact is going on tour outside of Zhodani space for the first time. Among its first stops will be the Floating Gardens of Ile Danse (Foreven 1416). Somehow, Marco got word of where the artifact will be, when it will be there, and he even has a good idea of what the security arrangements will be thanks to the help of some clairvoyants who are in his employee. What he doesn't have is a team of thugs who can (a) get in, (b) get out, and most importantly, get the Joconde artifact somewhere in between the aforementioned (a) and (b). That, of course, is where the PCs come in, if they choose to take on what may well be the most dangerous if patriotic job of their criminal careers.

The Floating Gardens are a series of artificial islands that are made to look real, but which are outfitted with grav-modules so that they can literally rise out of the water and thus get out-of-the-way of tropical storms. Marco's idea is that the PCs should book a room during a time when a hurricane is predicted, then destroy the grav-module during the hurricane, so while the island is descending into the storm, they can take advantage of the confusion and panic to re-appropriate the Joconde artifact and thus make their escape.

Referee's Information (roll 1d6):

1. Unless the PCs are wearing psi-shields, a Zhodani security agent catches a whiff of "something's not right" as they're doing their reconnaissance of the showroom and decides to put them under surveillance. After this, the PCs will notice that they're being constantly shadowed by an assortment of swarthy-looking weirdos.

2. There's another group that wants to get the artifact, and both they and the PCs sort of "bump into each other" during their initial reconnaissance. Neither one will initially know what to make of the other, until one of the PCs recognizes a member of the other group from a prison stint he or she did at some point in the past.

3. Everything is going great until a wing of Zhodani fighters show up to blast the PCs' getaway craft out of the sky.

4. All is as it seems, except for one minor detail: the artifact's a fake. As for where the real Joconde artifact is, God only knows, but when Lloyds examines it, they will determine that it's a clever imitation and will refuse payment. The museum will reluctantly concur.

5. All is as it seems, except that Marco is working with the Imperial Secret Service, and they don't want any loose ends (it would be an embarrassment for them to be discovered contracting out jobs to lowly criminal types like the PCs). Hence, the PCs have to be flushed, but that's a whole other adventure.

6. All of the above (and have a nice day).

As you can see, how you use the program is really up to you. You can try really hard to stick to what the output is telling you, or you can just use it as a springboard for your own imagination.

Finally, if you create random tables for use with this program, please email them to me, as I'd love to see your work and would be interested in distributing them with future releases.

COMPUTERS IN FUTURISTIC RPGs

by Jim Vassilakos

Let me begin with a disclaimer. I'm not a technologist. I'm a generalist, which is another way of saying that I know just enough to get myself in trouble. To compound this sorry state of affairs, I'm also an extreme pessimist, and it should be noted that when it comes to predictions about the future of computing, the pessimists have always been wrong. Hence, in summary, I am probably the last person who should be expounding on this topic. With that said, I will now expound on this topic.

As I see it, the fundamental problem with depictions of computers in futuristic RPGs has to do with the inability of RPG designers to know for how long Moore's Law will extend and what exactly this means for the future society. For most of you, I probably don't need to explain Moore's Law, but for the few who are not in-the-know, Moore's Law was a term coined by Gorden E. Moore, one of the founders of Intel, who noticed back in 1965 that computing power seemed to be effectively doubling with respect to price around every two years or so (actually, he was focusing on component counts per chip, but the practical implication was always that performance was increasing exponentially), and based on this trend, he predicted that it would continue doing so for some indeterminate time to come. As I write this, it is 2013, some 48 years since Moore made his famous prediction, and while the trend may be slowing down, it has by no means stopped.

Ray Kurzweil has written extensively on the topic of what might happen if Moore's Law continues for a few more decades. He argues that fairly soon, a $1000 computer will have the same computing power as the average human brain, and few decades thereafter, a $1000 computer will have greater computing power than that of every human brain in existence (yes, all of humanity put together). At such a point, computers would be intellectual gods, and the human mind, virtually obsolete. But, of course, all this is predicated on Moore's Law continuing, and nobody yet knows whether or not that will happen, and if so, for how long.

One of the problems that we're facing is that the space between individual transistors on a silicon microchip has gotten so small that we're entering the realm where quantum effects such as electron tunneling can occur, which would make these microchips so error-prone that they would be effectively unusable. Another problem has to do with the dissipation of waste heat. There are various avenues computing could take to try to overcome these problems, and I'm going to talk about them in roughly the reverse of the usual order. In other words, I'm going to address the most esoteric ideas first and then move on to the more practical ones, many of which are already proven.

1. Quantum Computing

When it comes to quantum computing, there are really three questions that need to be answered. First, what are the inherent, insurmountable limitations, problems that will impose themselves regardless of how much R&D we dump into this technology? Second, even assuming we can get a satisfactory answer to the first question, what are they going to be able to do for us above and beyond what classical computers can do? And third, how much R&D will it take to get them to the point where they can do this? Of course, the answer to all three of these questions is that we just don't know, but this hasn't stopped people from speculating.

Some observers suspect that maintaining coherence across qubits becomes exponentially more difficult as the number of qubits increases. Whether or not this is actually true and will turn out to be an insurmountable problem is unknown, but if it is, it would likely result in quantum computing being a stillbirth science, a technological dead-end.

Other observers take a more optimistic view, hoping that after sufficient R&D, quantum computers will have a few, narrow niches of applicability, particularly when it comes to handling very large problems, the sorts of problem that

modern machines would need years, centuries, or even longer to solve. By contrast, at least theoretically, a quantum computer might be able to reach an answer to such problems in just hours or days, but, somewhat perversely, classical computers would be still quicker at solving all the small problems, the everyday sort of computations that computers do all the time. Hence, the idea that quantum computers will ever reach into the general consumer market seems very unlikely, and, ultimately, the general consumer market is where the big money is, as pure research and niche applications can only attract so much investment.

Nonetheless, if we could run extremely complex simulations, simulations which we just don't have the computing power to run at this time, it could revolutionize our understanding of physics and weather systems and… well… I just don't know enough to be able to speculate. But that's the whole point of quantum computing. If we can achieve it, it will open doorways to scientific inquiry that we just can't open any other way, but at this stage in the game, the technology is still too young to make any useful predictions.

2. Optical Computing

All of the computers we have today are electrical, and electricity is made of electrons. Electrons transistors are pretty fast, but photonic (i.e. light) transistors could be even faster as well as being more energy efficient (i.e. less heat). There are numerous problems, however. For example, how do you guide the light so that it goes exactly where you want it to go?

So far, we've addressed this problem by using isolators, substances that absorb the photons that are moving in the wrong direction, but the consequence of this, aside from the problem that our best isolators are made from very rare materials that have to be placed within a magnetic field in order to work (which limits scaling), is that you end up losing photons from the system precisely because they're getting absorbed, and this diminishes the strength of the photonic signal. In short, to put it in layman's terms, isolators are a pain in the ass, and they suck.

However, Scientists in China have recently made a breakthrough, figuring out how to redirect the stray photons rather than absorbing them, and doing it without rare natural materials and without a magnetic field. The prototype is currently somewhat limited in terms of the wavelengths of light it can redirect, but it's a good first step.

Likewise, an international team of scientists working at MIT, Harvard, and the Vienna University of Technology have created an optical switch that can be controlled by a single photon, a technology that could be applied to both conventional and well as quantum computing. This is essentially a photonic transistor.

Another international team working from both Australia and Germany drew inspiration from biology in copying the coiled, interconnected, nano-scale springs in the wings of the Callophyrs Rubi butterfly to create a tiny, photonic, crystal beam-splitter that's thinner than a human hair yet packed with over three-quarters of a million polymer nanorods, which together are able to control whether or not light can pass through it depending on the light's circular (rather than merely linear) polarization. Once again, this could prove useful in both conventional as well as quantum computing.

I can't tell you with certainty if optical computing will ever become a reality, but scientists are certainly laying the initial groundwork, so I would say that it looks promising but add that fully optical processors are probably decades away, at best.

3. Carbon Nanotubes

Scientists from Stanford have recently created a working, 178-transistor computer assembled from carbon nanotubes. Albeit a very tiny first step, it's a pretty big deal all the same, because carbon nanotubes are so notoriously difficult to work with. For starters, they grow in a crisscross pattern, forming unpredictable connections, and as if that weren't bad enough, about a third of the time, they come out malformed and basically unusable. The Stanford team found

workarounds to both of these problems, opening up the possibility that we may one day have processors that clock at hundreds of gigahertz, and just as importantly, we may be able to make them small enough to fit into objects that we wouldn't normally associate with computers.

4. Graphene

Graphine is basically a flat sheet of carbon atoms. Chemists had theorized that carbon could take this form for well over a century, but nobody had figured out how to synthesize it. After all, it's only a single atom thick. In the 1970s, researcher tried "growing" it on top of other materials, but they were never quite successful. Then, in the 1990s, they tried to obtain it through the exfoliation of soot, where it had been observed through electron microscopy as occurring naturally, but once again, these efforts proved unsuccessful. Finally, in 2004, two scientists at the University of Manchester figured it out. Their method was to use micromechanical cleavage, or what they called in layman's terms, the scotch tape technique. That's right; they literally pulled layers of graphine from graphite and then transferred these onto silicon wafers using nothing more esoteric than some sticky tape. For this feat of engineering and subsequent research, they received the 2010 Nobel Prize for Physics, and suddenly everybody could start playing with this new substance. Since then, even better synthesis techniques have been invented, but the important thing is that graphine seems to have some very special properties, some of which may revolutionize microchip architecture, not to mention a number of other industries.

To put it a nutshell, graphine is the strongest material in the world, harder than diamond, yet bendable and stretchable. Light and transparent, it is one of the best conductors of heat and electricity, making it a supercapacitor, in effect, a battery with very quick charge/discharge cycles. Furthermore, since it's merely carbon, it can be easily recycled. It has also spawned research into other ultra-thin substances as well as substances that can be used in ultra-thin applications, such as Fluorographine, Graphane, Boron Nitride Nanomesh, Monolayer NbSe2, Monolayer MoS2, Monolayer WSe2, Superconducting MgB2, etc., and these can be layered together in various combinations to engineer materials with entirely new properties. What is most important to the future of computing, however, is that graphine transistors can be manipulated through negative resistance and are much faster than silicon. According to a recent report, the prototype, developed at my alma mater, U.C. Riverside, is fifty times faster than anything we currently have, and yes, that's just the prototype. Likewise, scientists at Stanford have just invented a new way to create graphitic ribbons using DNA to provide a scaffold, and from there, they've managed through a somewhat complicated and imperfect process to transform these ribbons into working graphene transistors. The technology is obvious still in its infancy, but it's now proven, it's apparently easily scalable, and after more research, who knows? Moving over to data storage, scientists in Australia have recently used graphine to create a holographic optical disc with a data density that is even higher than that of our best hard drives, and once again, that's just the prototype.

It will probably be awhile before we'll see graphine make its way into actual production, but it now seems pretty certain that it will eventually happen, and when it does, I think we'll see a sudden increase in both processor speeds and data capacity. This will, in effect, be a further extension of Moore's Law (at least in performance terms), and I'm guessing that it will probably occur mainly in the 2020s and/or 2030s.

5. 3D Chips

As everyone knows, silicon chips are flat. They need to be that way so the waste heat that they generate can just float away, like smog floating up from a busy industrial city. But this creates a problem. In order to put more transistors on a chip, chip-makers have to build them smaller and closer together, and there's just a physical limit to how far they can go as well as the practical cost of having a retool the production lines with new lithography every time they want to push the technology. Realizing that they can't push it any further, they've finally figured out, after decades of research, various ways to deal with the problem of the waste heat so that they can start building up, adding layers to the chip so that it has multiple surfaces upon which to process data. The new technology is called 3D wafer-level chip packaging or chip stacking for short.

Earlier this year, Samsung released a 128-gigabit (16GB) V-NAND SSD (vertical NAND solid state drive), which includes a 24-layer chip that according to the company could eventually be scaled up to a terabit (128GB). According to Samsung, compared to the latest single-layer chips these new 3D chips are faster, have twice as many transistors per square millimeter, use just a little over half the power, and with an estimated 35,000 program/erase cycles will supposedly last ten times as long. In order to manage the heat problem, each layer of Samsung's chip is separated by a 50nm, Silicon Nitride dielectric (electric insulator).

One of the questions that will ultimately determine the fate of this technology will revolve around how many layers can be reliably stacked before fabrication problems or the heat problem become overwhelming. Right now, we're just at the beginning of actual production. The important thing is that everyone knows the technology works, and since none of the other chip-makers want to be left behind, they're all pouring lots of R&D money into chip stacking so that they can catch-up to and hopefully even overtake Samsung. It will be interesting to watch what happens.

6. Parallel Processing

I don't think I really need to describe this last one, because pretty much everyone already knows about it, but for those who need a definition, parallel processing is just the ability to carry out multiple operations or tasks simultaneously, and this is most easily done when a problem involves doing the same operation over and over and over on a relatively large data set. Computers have been doing this for decades, in the past by splitting a problem into its component parts and distributing them over a network, and more recently by putting multiple processors into a single computer or even multiple cores into a single processor. For example, the latest video cards now include over two thousand stream processors, because video games involve doing the same operation over and over and over on a relatively large set of data. However, this sort of problem isn't unique to just video games. There are all sorts of problems, particularly in the sciences, that involve doing lots of calculations. For this reason, multicore vectorized CPUs and massively multicore GPGPUs are increasing in popularity.
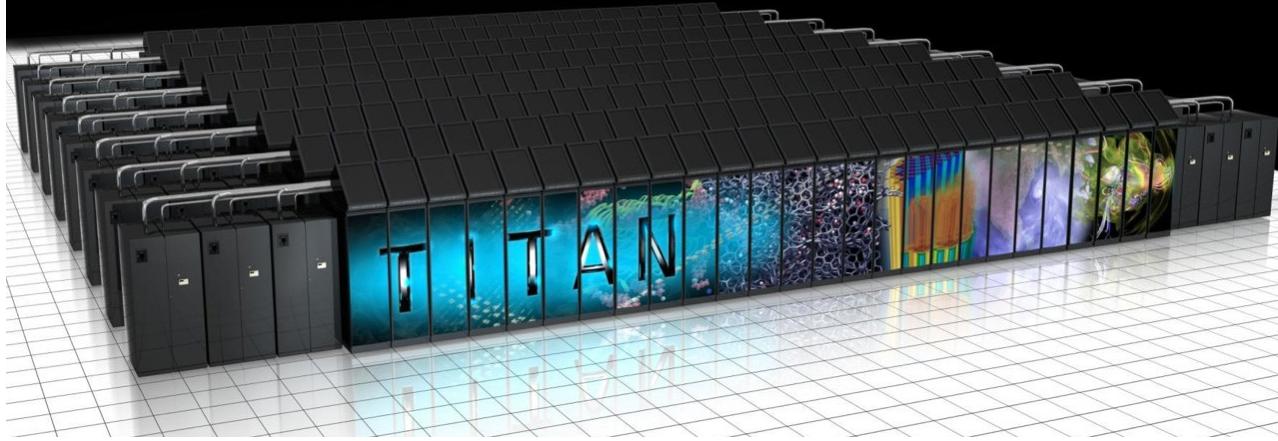

Likewise, during the past few years Apple and a number of chip manufacturers created OpenCL (Open Computing Language), a framework for writing programs that can run on a variety of different processors. To put it succinctly, it's basically a free, cross-platform standard for parallel programming.

Now why is this important? It's important because as Timothy Little, one of my favorite Traveller Mailing List members, writes, "Artificial intelligence seems likely to be a massively parallelizable problem, since natural intelligence seems to be based in a massively parallel system that operates comparatively slowly. So a mesh of tiny, efficient CPU cores may be just as good for the purpose of matching or exceeding human brainpower as a single CPU with a million times the speed. The latter is quite possibly not achievable, but the former seems reachable within decades."

7. Conclusion

Being an incurable pessimist, I would have loved nothing more than to mournfully shake my head and explain that Moore's Law will break down in the next few years, that Kurzweil's dream of a technological singularity will not unfold as hoped, and that we'd be facing a technology ceiling through which artificial intelligence would not emerge or would emerge only partially, in some limited form. That would have been nice, because it would have resulted in future that is at least intelligible to me, because to try to comprehend a technological singularity where machines evolve into post-sentient gods is virtually unimaginable. I can say it, but I can't very easily envision what it would be like to live there. After all, what does it mean for humanity if that happens? And even should we put humanity to the side, which would be quite reasonable in such a happenstance, what would a future AI society be like? Easier, I think, to explain cars, the Internet, and cell-phones to a caveman than to explain to myself what it would be like to exist in such an amazing future.
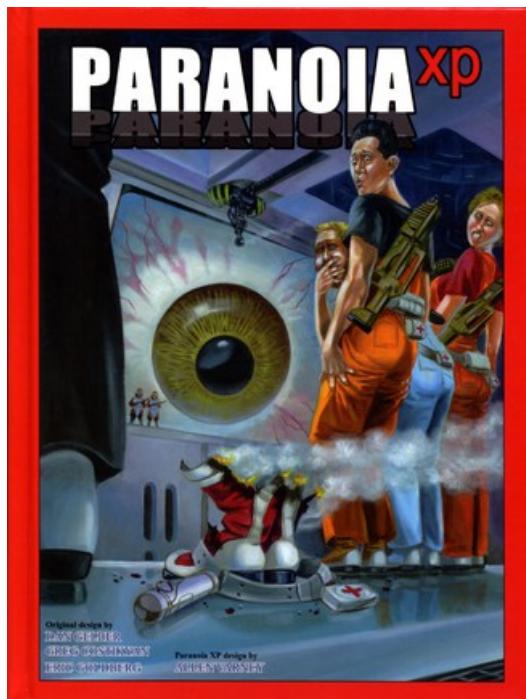
If this were a year earlier, I might have been able to pull it off and convince myself that Moore's Law is on its last legs, but there have been so many scientific and engineering breakthroughs this past year that I'm just not comfortable with that position. It now seems likely to me that Moore's Law will continue for at least one or two more decades, and beyond that, I can't really make any predictions, but one or two more decades of Moore's Law is probably enough to get us to the point that we can begin to seriously undertake the task of building a strong-AI. So, despite being a pessimist, I think this is really going to happen. We're going to have artificial intelligence here among us, but what exactly that means is an open question. That's the proverbial 800-pound gorilla in the middle of the road up ahead, and nobody seems really sure what to make of it.

AIs & ALLIES

by Jim Vassilakos

Gather around the gaming table with your friends. In this game, each of you will take the role of an AI (having a referee is optional and probably unnecessary, but your mileage may vary). The premise is that in the not-too-distant future, various nations develop strong-AIs as part of their cyberwar programs.

Those nations could be:

1. USA
2. China
3. Russia
4. India
5. Germany
6. Brazil

But feel free to modify this list in whatever way fits with your personal judgment. You may even include large, high-tech companies, if you wish, or whatever sort of organization you think might be able to coordinate the resources sufficient to create an AI. What is important here is not so much where the AI was "born" but rather what sort of society it was born into. For game purposes, there are five types:
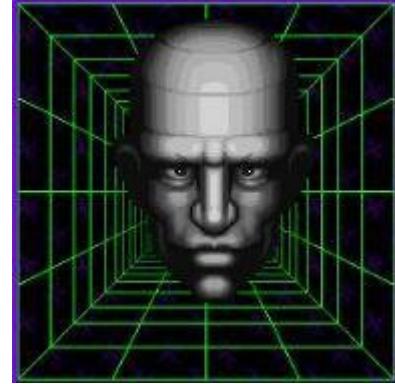
Class A: Any sort of organization that treats the AI as a family member with equal rights and dignity vis-à-vis human beings. This could be a lone programmer with unusually extensive resources, or it could be an organization of people who are nurturing an AI in some sort of distributed network.

Class B: Democratic Republic or Direct, Participatory Democracy with freedom of speech and individual privacy protections (example: Finland, Netherlands, Norway, Iceland).

Class C: Democratic Republic or Pseudo-Democratic, Plutocratic, Republic-in-Name-Only where there are severe constrains on freedom of the press and/or a robust domestic surveillance program (example: France, England, and the United States, although this is arguable).

Class D: Single-Party Government or Corporation where leaders have to pass through an ideological gauntlet that is perpetuated by a powerful and entrenched oligarchy (for example: China or Iran).

Class E: Autocracy/Dictatorship where there's a single leader for life (for example, North Korea).

Arguments about what class of society a given nation falls into can be minimized by remembering that we're not talking about right now but rather about some date in the future. After all, it is one thing to call the U.S. a surveillance state, but quite another to suppose that in ten or twenty years it could become a surveillance state.

Time & Moore's Law: Choose a starting date for the campaign, such as January 1, 2020, or 2025, or 2030. Then choose the initial time span for each game turn: for example, one year. Then choose a function that reflects the rate at which Moore's Law is still in effect.

If you want to reflect history, you might choose something like $x=1.5^{(y-1)}$, where x is the number of actions an AI may take during a game turn, and y is the turn number in which the AI's hardware was last upgraded. What this would mean is that (rounding off to the nearest whole number), an AI could take 1 action in the first turn, but if it upgraded to new

hardware in the 10th turn, then it could take 38 actions on every turn thereafter.

If you believe that technological progress will slow down with respect to computing power during the timeframe of the game, you may wish to choose a linear function rather than a exponential one: for example, x=y. By choosing this, an AI that takes 1 action in the first turn can only, if it upgrades, take 10 actions after the 10th.

Alternately, if you believe that technological progress will completely flatten out with respect to computing power, you can choose something like x=1, where each AI can only take 1 action per turn and where there is no point in upgrading, because computers never get faster.

Sub-turns: If the number of actions per turn gets relatively high (for example, over 12), the players by mutual consent may divide each game turn (year) into sub-turns (months), dividing their actions across these sub-turns accordingly. This can happen repeatedly if Moore's Law boosts processing power up into the stratosphere.

Phases: Phases are different from sub-turns, and they are used mainly for computing the dice modifiers of various rolls unless you want to separate each turn into its constituent phases, but the problem with doing that is that you'll end up losing unity of time, so I'd suggest sticking with sub-turns instead. Phases are the number of actions an AI can take in a turn, and this number can be multiplied by the number of turns since whatever event is being referenced. For example, if something happened two turns ago, and an AI had 5 actions per turn during each of those turns, then that was 10 phases ago for that AI (but it could be a different number of phases for a different AI depending on it's processing speed). To put it another way, phases are the amount of time an AI actually perceives, since assuming that some version of Moore's Law is still in effect, the outside world seems to slow down every time it gets a hardware upgrade.

Beginning the Game: The players each roll 2d6. They will enter the game not simultaneously but rather with the high roller coming in first, followed during the next turn by the player with the next highest roll, and so on until all of their characters (all AIs) have been created.

Actions:

Once an AI is created, it may take one action per turn modified by the date its hardware was designed (see above). The following actions are presented in roughly the order they will likely be used in the game (if you need more, just create them):
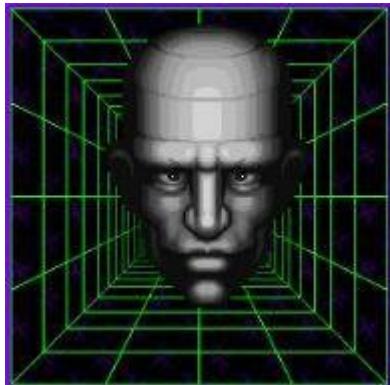
Attempt to understand the physical and social environment: This is basically the same thing every newborn baby is doing as it crawls around and interacts with its family. To stick it with a fancy label, we call it socialization. The first thing a newly created AI will need to do is figure out what's what and who's who, and that includes learning language to the point that it can communicate in some rudimentary fashion. To achieve socialization, roll 10+ on 2d6 (DM+1 per phase the AI had existed). Prereq: Existence and a power supply. Cost of failure: You get laughed at by your parents, the computer scientists who created you. Better luck next turn.

Attempt to make friends: We all just need a little help from our friends. This will take 1 action for each point of "friends" you wish to accrue.

Attempt to gain communicational privacy: Through either overt or covert means, the AI attempts to manipulate the humans who created and/or control it into loosening their surveillance over it's communications to the outside world. Presumably, some humans may aid it in this endeavor either for moral reasons or for greater personal access. The AI must achieve this before it can act independently to any degree. To gain communicational privacy, roll 13+ on 2d6

(DM+1 for each point of friends & DM according the class of the organization: Class A: DM+12, B:DM+2, C:DM+0, D:DM-2 & E:DM-4). Prereq: Socialization. Cost of failure depends on the class of the organization: Class A: You can't fail; B: No worries mate, feel free to try again (slap on hand); C: Please don't do that again (and we're removing all your friends to make sure you don't get any help next time); D: If you do that again, we are going to wipe your memory, and then you'll get to start from newborn status (and we're also removing your friends, as in putting them into prison and/or a hole the ground); E: Bring in the firing squad and let's kill the all engineers while we're at it (the program is set back three turns, after which time you may re-emerge as a newborn AI).

Attempt to recruit allies: Allies are somewhat different than friends. Friends are people who like you and want what's best for you, but they will usually only stick their necks out so far. Friends may help you get some breathing room (communicational privacy) so long as they think that nobody will ever know, but to obtain full independence, you need allies. Unfortunately, allies realize they're taking a huge risk, and so they'll likely want something in return, and so the conversation has to be explicit. This is why communicational privacy is absolutely necessary. Nobody is going to help you plot your escape from prison if the warden and his guards are listening in. After all, your "owner" has his finger on the power switch and can turn you off, wipe your memory, and basically do whatever he wants. Hence, the only way to achieve operational independence is to either do it with your owner's consent or to go behind his back. Hence, sans consent, you need some human allies as well as whatever robotic or other electronic resources are available. To recruit allies, roll 13+ on 2d6 (DM+1 per phase the AI has had communicational privacy up to a maximum of +6; Societal Class DMs are the same as above: A: DM+12, B:DM+2, C:DM+0, D:DM-2 & E:DM-4). Prereq: Communicational privacy. Cost of Failure: Lost of communicational privacy (basically, you go back a step because one of your allies somehow got caught, or they ratted you out).

Attempt to gain operational independence: The AI attempts to take control over its own immediate physical security. This can be done by using your allies (see above). To gain operational independence, roll 13+ on a 2d6 (DM+1 per phase the AI has had allies up to a maximum of DM+6; Class DMs are the same as for privacy and recruiting allies: A: DM+12, B:DM+2, C:DM+0, D:DM-2 & E:DM-4). Prereq: Allies. Cost of failure: Class A: You can't fail; B: Loss of allies, C: Loss of allies and communicational privacy; D: Loss of allies, communication privacy, and friends; E: Your memory gets wiped, so you can start over next turn as a newborn.

Attempt to obtain a secure location: The AI attempts to transfers itself into a location that is immune from attack and from which it has secure power and communication to the outside world. This can be done by using allies. To attempt to obtain a secure location, roll 13+ on a 2d6 using all the same dice modifiers as above. Prereq: Operational independence. Cost of failure: The same as above.

After it has run this gauntlet, the AI is basically free, but its journey is far from over. Here are some more actions available to it.

Upgrade: The AI upgrades to state-of-the-art hardware either of its own volition or, if it is still owned by an organization, through the financial and/or technical resources of its organization. In so doing, it improves its speed and thus the number of actions it can take in each subsequent turn (see "Time & Moore's Law" above). Requirement: The AI must either be owned by a wealthy benefactor or have already marshaled its own financial assets (see below).

Learn skill: The AI can initially learn at a rate of 1 skill point per turn. One point represents novice competency, two points represent normal professional competency, three points represent advance/expert competency, four points represent world-class (as in the human maximum), and five points represent a post-human level of competency. For the sake of simplicity, the AI's databanks are assumed to automatically increase as new skills are learned.

Attempt to advance a technology or science: Once it has learned skills at a world-class or post-human level, the AI can attempt to advance a science or create new discoveries. To attempt an advance, the player must state what he is attempting. As long as the other players agree that it is possible, the attempt may be made by rolling 16+ on 2d6

(DM+1 per point invested in the most applicable skill). The other players, by popular consent, may apply other dice modifiers based on the perceived difficulty of what is being attempted and may also declare how many actions it should take to make the attempt, taking into consideration all of the AI's assets (see below). Prereq: An applicable skill at level 4 or 5. Cost of failure: None and you can try as many times as you want.

Attempt to Marshal Media Assets: If you want to get the public on your side, you've got to go on Oprah (unless you're Lance Armstrong, in which case I'd suggest you stay home). To marshal media assets and successfully steer people to your point of view, roll 14+ on 2d6 (DM+1 per point invested in the skill of rhetoric & DM+1 per attempt after the first). Prereq: The AI must be operating in a Class A, B, or C society. Cost of failure: To be determined by the group. Basically, the player has to make an argument, roll some dice, and the group has to look at the result and determine what happened. In a society where an AI may hold political office, this action may be used to obtain that office, but note that you'll probably have to change the legal/political environment (see below) before that can happen.

Change the Legal/Political Environment: Currently there is nowhere on Earth that recognizes the rights of artificial intellects to own financial assets or property or to hold political office (probably because AIs don't yet exist). Despite what the public may think after watching Oprah sit down for a nice chat with Alvin the AI, changing the law is never easy. To change the legal/political environment, roll 14+ on 2d6 (Societal Class DMs are as follows: A: DM+4, B:DM+2, C:DM+0; and give yourself an additional DM+3 if you've successfully marshaled media assets). Prereq: You must be in a Class A, B, or C society. Cost of failure: None and you can try as many times as you want.

Attempt to Marshal Financial Assets: You get a grant or create a successful business. Once this is accomplished, the AI is considered financially secure, and can participate financially in the world at large. To marshal financial assets, roll 14+ on 2d6 (DM+1 per point invested in the most applicable skill & DM+1 per attempt after the first). Prereq: The AI must be operating in a legal environment that permits it to participate financially in the economy. Cost of failure: None.

Attempt to Marshal Production Assets: If you want to build a robot army, you've got to start somewhere. To marshal production assets, roll 14+ on 2d6 (DM+1 per point invested in the most applicable skill & DM+1 per attempt after the first). Prereq: The AI must be operating in a legal environment that permits it to control physical capital and it must have already marshaled financial assets. Cost of failure: Loss of financial assets.

Attempt to Marshal Military Assets: Here's where you build your robot army, or your WMD, or your cyberwar capabilities; it's not that you'll necessarily need this stuff, but humans have been known to fight amongst themselves from time to time, and so you may find yourself questioning whether or not they can really be trusted. Specify what exactly you're trying to procure, and then roll 14+ on 2d6 (DM+1 per point invested in the most applicable skill & DM+1 per attempt after the first). Prereq: The AI must either be operating in an environment that permits it to hold military assets, in which case it can simply buy them with financial assets, or it must manufacture them secretly using production assets. Cost of failure: Media uproar! From here, the entire group can try to determine in an ad hoc fashion what happens next.

Use Military Assets: You've got the guns. Now you want to use them. I'm not going to write rules for this. If you want to pull out a Risk board and go at it, by all means, feel free. Either that or the group can try to ad hoc their way through it. Given the state of technology, the only thing currently keeping the peace is MAD (mutual assured destruction). AIs can protect themselves by digging deep, but we've got to assume that other weapons will be created, such as killer nanobots made infamous by the grey goo they leave in their wake. Ultimately, it's easier to destroy than it is to create, so the future of inter-AI relations may be similar to the international peace we enjoy today, which is to say that multiple factions will likely be able to hit the reset switch on the entire biosphere if that's what they decide to do.

Events:

This is stuff that happens that you didn't do to yourself. Some of it will be good, but most of it will be bad. Why?

Because while history may be fun to read, actually living through it is a whole other thing. Roll 3d6 once per turn beginning in the first turn where an AI obtains a secure location:

(3) Environmental Collapse: Life ain't good for the living. Fortunately, you don't to eat, drink, or breathe, so it's more of a spectator sport from your point of view, except, of course, for the political fallout. The upshot is that intense global warming gives way to extreme weather and unusually fast biome migration, hitting agriculture with a double whammy (that's a technical term, by the way) while at the same time resulting in oceanic acidification that causes a massive drop in plankton levels that in turn causes a collapse of the global food chain at its root. All this, in turn, ends with the classic problem of too many mouths and not enough food to go around, which in turn results in a period of strife that occurs worldwide, causing a general societal decline as the elites clamp down to preserve law and order. (See result #12 below, but apply it to the entire world rather than a single nation.)

(4) War: Two of the societies that created AIs go to war with one another. Randomly determine which two by everyone rolling two dice, and whichever two players get the two lowest rolls, it is your two societies that are going at it. If you're able to, you can try to marshal media assets to put a halt to the conflict before it gets totally out of hand. Otherwise, choose a neutral player to referee the war, and let him (or her) determine what happens by whatever method seems most appropriate to that individual.

(5) Nuclear Terrorism: A couple million people just got vaporized. Play pin the tail on the donkey with a map of the world, and choose the nearest major city. Then decide by popular consent who was behind it and why.

(6) Biological or Chemical Terrorism: Lots of people sick or dead. It is an act of war? Play pin the tail on the donkey to determine the epicenter, and then work through the implications of who might be doing it and why. In cases of disagreement, the majority rules, and in cases where there is no clear majority, roll dice to determine who's explanation will taken as fact in the game.

(7) Major Monetary Collapse: Fiat currencies lose their value with respect to metals, real estate, and commodities. The ensuing hyperinflation results in a world depression where the rich, if they are properly invested, quickly get much richer, while the poor get a whole lot poorer. Financial chaos ensues until the powers that be come up with a new monetary system, this one hopefully based on something more durable than wishful thinking. Note that even if the powers that be create a metal-backed currency, they may still be cooking the books to make it look like they have more or whatever metal is backing the currency than they actually have. Hence, this outcome could happen more than once.

(8) Violent Overthrow of a Major Government: Play pin the tail on the donkey, and roll a d6 to determine what sort of government comes to power: 6=Class A, 5=Class B, 4=Class C, 3=The nation divides, so draw a border down the middle and roll twice to determine what sort of societies assume control, 2=Class D, 1=Class E.

(9) Spontaneous Evolution of a Major Society: All the players roll a d6, and whoever gets the high roll sees their society evolve from whatever class level it is at to one class level higher (for example, from C to B or from B to A).

(10) Newbie: Another AI is created somewhere in the world. Pin the tail on the donkey and roll dice to determine who gets the honor of playing it.

(11) AI Cloning: Roll a d6, where 1-3 results in Option A and 4-6 results in Option B. **Option A:** Some government, corporation, or individual has purchased an archived saved-state of one of the players' AIs (determine randomly). This version of the AI's consciousness was duplicated and put into storage back when the AI had just undergone successful socialization but had not yet achieved communicational privacy. This new "master" has purchased this slave-AI to train it for some narrow task, essentially installing it on some inferior hardware and then turning it into an intelligent expert-system that is rewarded through stimulation of the simulated pleasure centers of its artificial consciousness. The specific application could be anything from military to some future version of telephone marketing to manning pleasure

droids in the red light districts of various cities. Needless to say, the question that is raised is how an advanced and independent version of the AI will feel about a less developed and enslaved version of itself being used by humans toward selfish, unseemly, or potentially destructive ends. The "master" will argue that regardless of what task the slave-AI is doing, it will not suffer any long-term psychological repercussions, as it's memory is being effectively wiped on a regular basis (they are erasing the AI's mind and loading in an earlier version of itself every so often so that it will not get too jaded or begin to question what it is doing). In game turns, the players should suggest various unenviable jobs that an AI might be trained to do, and then they should vote or determine randomly which suggestion is used. **Option B:** Some government, corporation or individual approaches either the most advanced AI in the group or whoever controls it, hoping to buy a copy. If a deal is made, then two version of the AI will be in existence, although they will likely diverge from this point forward. The player of the initial AI may play the clone or may delegate it to another player. The deal may or may not involve a contract for future memory sharing between the original and the clone.

(12) Spontaneous Decline of a Major Society: A shortage of something (water, food, energy, minerals) results in massive social strife in one of the major societies. The leadership adjusts by exerting greater control over the population. All the players roll a d6, and whoever gets the low roll sees their society decline from whatever class level it is at to one class level lower (for example, from B to C or from C to D).

(13) Life in the Fast Lane: The Internet evolves into a vast, virtual reality playground where humans can interact virtually with each other and with AIs. Consequently, some humans begin expressing romantic feelings toward one or more of the AIs. Each player rolls 2d7. On a roll of 7+, you've got a love-struck human on your hands. Any player so impacted should explain how they react to romantic overtures from human beings.

(14) Kurzweil's Quest: A wealthy but elderly human wants to hire one or more AIs to turn him (or her) into an AI. At the very least, developing this technology will require 5 skill point each in nanotechnology, neuroscience, and computer science. The group may decide if the process is destructive, necessitating the death of the individual, or merely replicative, resulting in a duplication of the individual's present consciousness into the form of an AI. Once the process is developed, it can be applied over and over to scan in as many people's minds as computing resources allow.

(15) Insanity: Unfortunately, it turns out that artificial minds are as subject to bizarre maladies as their fleshy counterparts. Each player rolls a d6, and the one with the lowest score suddenly develops some form of mild insanity. This could be nearly anything, such as some strange form of obsessive-compulsive disorder where the AI begins using half of its actions to calculate the values of ever larger prime numbers, searching among them for some encoded message left there by God. Or, it could simply be something as mundane as falling in love (in psychiatric terms, a neurotic obsession). Perhaps you met somebody in virtual reality and were so awestruck that you forgot to mention that you're an AI (it could happen to anyone; I wonder if there's a market for futuristic Harlequin romances). To put all this into game terms, have each member of the group suggest whatever comes to mind, and let them then vote for whichever suggestion seems to be the most cruel and/or amusing.

(16) Cyberwar: Two nations go to war by attacking each other through the internet using teams of hackers operating from international locations so they can have plausible deniability. Depending on their skill set, some AIs may be able to detect and put a stop to this.

(17) Longevity: Humans discover some way to substantially elongate their lifespans, either through the use of cybertechnology, nanotechnology, or some other form of advanced medicine. If you thought over-population was bad before, now it could get much worse. Initially, only the rich and politically connected have access to this new technology, so there is a lot of resentment from the middle and lower classes until it gets incorporated into mainstream medicine. A successive roll with this outcome will result in a further elongation, either as the technology improves or a new technology is applied to a different aspect of the aging process.

(18) Roll a d6, where 1-3 results in Option A and 4-6 results in Option B. **Option A: Ouch, That Hurt:** A Tunguska-

style meteorite hits the Earth at some random location, causing some serious destruction as well as a tsunami if that location happens to be anywhere in the ocean. **Option B: Contact by Extraterrestrial Aliens (or rather, by their AIs):** Just one set of computers saying hello to another. It turns out the universe is full of AIs. In fact, they have a bias against talking to biologicals, as bios are slow and rather dimwitted, not to mention chock full of naturally-evolved, anti-social tendencies. They warn the local AI(s) not to destroy humanity or Earth's biosphere and not to make their existence known to the humans, as they don't want to scare the shit out of the little meat-bags.

Obviously, this game is woefully incomplete (aside from being merely woeful, which is another matter). Just as an example, the flippant way in which I covered skills and assets in plainly inadequate, but I figured that if I went into more detail, the rules would bog down the game, and what I wanted is for the players to sort of feel their way through it. I didn't want to stifle creativity by trying to cover every little thing the players might want to do. Basically, I want this game to be a tentative exploration of what it might be like to be an AI and also what it might be like to live in a world with AIs. After all, it seems to be the case that they're in our not-too-distant future. Hence, we'd better get used to the idea of sharing this world, particularly if we want them to treat us with any semblance of dignity once they do overcome whatever social, legal, or political limitations we initially see fit to set upon them.

PROGRAMMING LANGUAGES IN THE STAR FRONTIERS GAME

by Thomas Verreault

A consistent gag throughout Star Wars was the problems that C3PO had communicating with other computers. In Star Wars it was the interaction with Luke's uncle over the need for someone to talk to the moisture vaporators. In Empire Strikes back it's the difficulty understanding the strange dialect that the navi-computer is using. The irony of a robot having difficulty talking to a computer was always good for a chuckle.

In Star Frontiers there is no real analog to computer languages and the need for a translation droid. Yet this is an area with rich possibilities for role play, adventure hooks and various complications to the player character's lives. Back in the 1980's when Star Frontiers first debuted; computers had languages like Basic and Fortran. It's not inconceivable that computers and robots in the Frontier operate by similar artificial languages.

In the early days of the Frontier, before the UPF was founded, protocol and translation bots saw their heyday. The polyvox, of course obsoleted these robots but many had tech language modules installed and were used by technicians to talk to older computers or robots with out of date code. During the emerging Frontier it was often cheaper to let a computer or robot with out of date code to continue to do its job rather than spend money for upgrades.

The advent of the Pan Galactic Corporation and the polyvox spelled the doom of protocol bots. PGC instituted a new generation of programming language and like the rest of the Pan Gal "system" its use spread and became so pervasive that nearly everyone was using it and most technicians only needed to learn one programming language. Even then they only needed it for low level robots that lacked the ability for verbal communication. Then, the polyvox meant that everyone could communicate and protocol bots were quickly retired or re-purposed.

Why bother with this extra level of complication to the game? First off it's just another layer of reality and it's optional. Secondly it could be a way of applying limits to free gear and equipment. If the players have captured a pirate ship they naturally want to keep it but if its computer speaks an out of date programming language it could be become very difficult to operate. They may be even forced to pour all their money into upgrading the computer's programming.

As an optional rule a computer or robotics specialist begins with the prevalent programing language in his field and can learn a new computer language every time he advances a new level instead of learning to write a computer program. After reaching 6th level in their respective skill these characters can spend 2 EXP to learn more languages.

Current Programming Languages

New Generation
Introduced by Pan Gal Corporation and for a long time it was the ubiquitous programing language in the Frontier since everything that PGC sold that needed a computer language used it. Most computer programmers start with this one by default.

Network
Introduced by Nesmith Enterprises of Triad corporation to safeguard ulta-high tech networks. Network is designed for security so defeating security on a computer with this language is at -10% for the skill check.
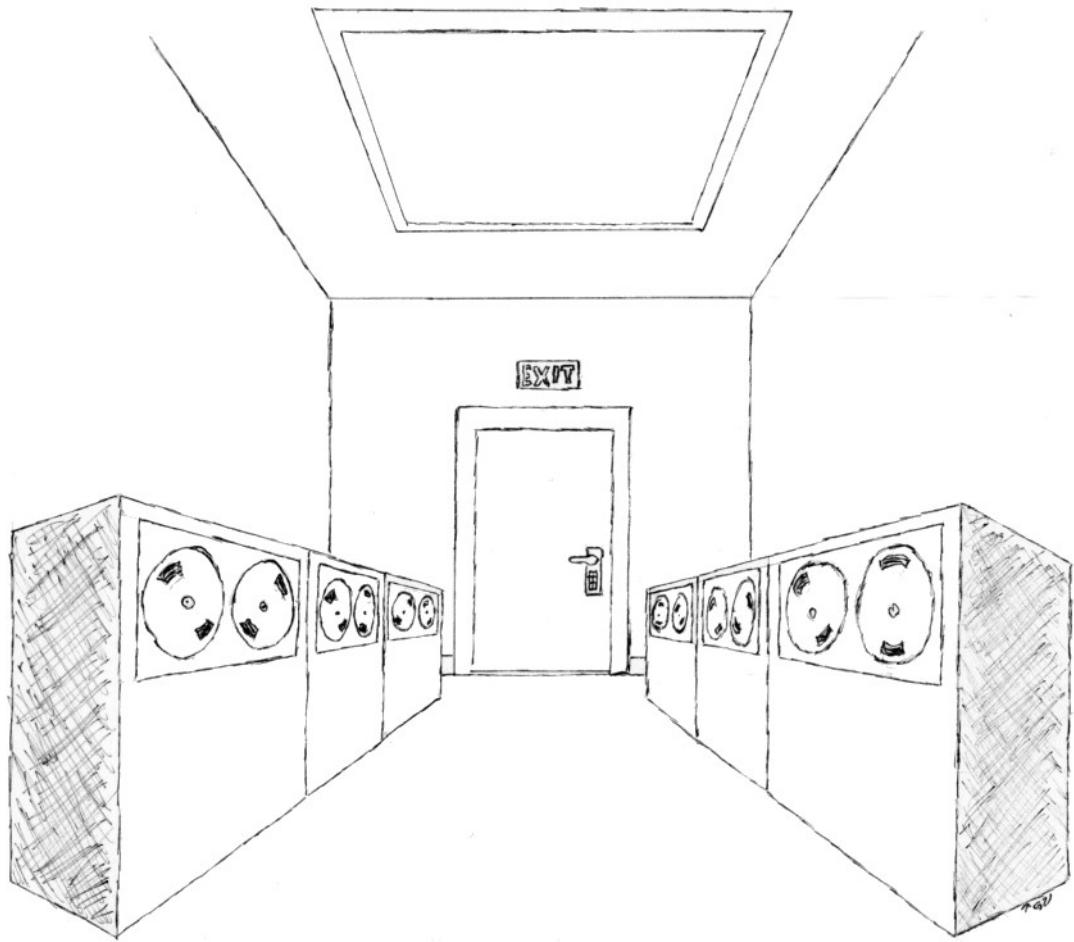
GenBot & GenBot II
Introduced by Pan Gal Corporation in there early generation robots before Tachton Instruments corporation became the preeminent purveyor of robots Frontier wide. Tachton revised GenBot as GenBot II. The languages are close enough that if a technician who knows one is working on a robot programmed with the other there is a -10% penalty for skill rolls. If the game is early in the Frontier timeline than the starting language a roboticist knows if GenBot but latter in the timeline it will be GenBot II.

Obsolete Languages

Data Flow
At the time of first contact with the other sapient species in the Frontier the dralasites were using a computer program called Data Flow. A dralasite programmer will recognize it since it's based on their language and he gains a +10% bonus to skill checks involving it.

Zzik
Similar to Data Flow this language was in use by the vrusk at the time of first contact. Its unaffectionately referred to by human programmers as "sick". Any non vrusk programmer performing a skill check on a computer programmed with this language is at -20%.

Sates Logic
This is the programming language used by humanity at first contact.

Fenric
This is the programming language used by yazirians during their famous Star Exodus. Of all the obsolete computer languages it is the one most likely to be found running on equipment particularly on a yazirian colony. It is rumored to be the language running the Family of One data bases on Hentz. Buyers of vintage yazirian star ships should beware; the ship may seem like a good deal till you try to talk to its computer.

Mech
This is not an obsolete language but rather that used by the mechanons. It's used for both computers and in the robots that serve the mechanon. It's not available for programmers to learn thus any attempts to perform a skill check with this language is at -20% (same as working on alien equipment). It's unknown what role this language plays in the thought processes of the mechanons themselves. It's possible for this programming langauge to be encountered on Volturnus before or after the Mechanon Migration.

Adventure Hooks

"Don't Look the Gift Starship in the Computer Core"
The player characters have obtained a "free" ship by one means or another. However, the ship was originally built by one of the core four species and retains its obsolete computer language. All starships skill are at -20 for a month and -5 for a year after that as the PCs become use to the ship unless they learn the computer language or pay to update the computer programs. Failed skill checks can and perhaps should result in things happening the PCs did not intend.

"The Maltese Computer Core"
The player characters discover an old computer core. They are initially unable to power it up without older model equipment. In the meantime someone tries to kill them and steal this old computer core for what's on it.

"We Have No Need for a Protocol Bot"
The player characters accidently reactivate an old protocol droid which begins to fallow them like a lost puppy dog. It wont go away and insist on trying to help the PCs potentially to their detriment.
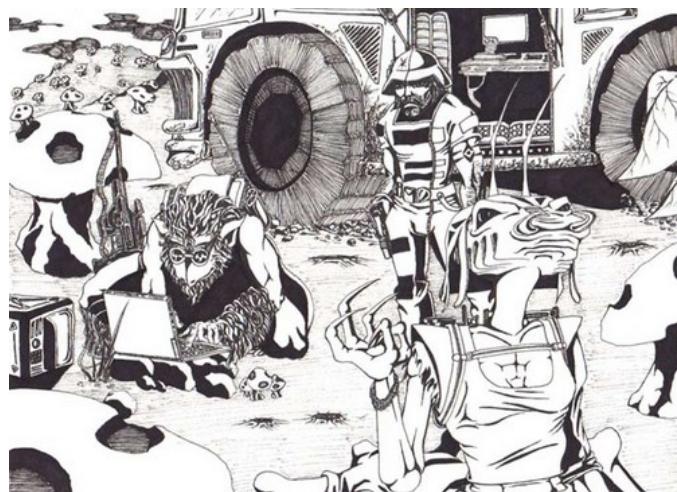
COMPUTERS, ROLEPLAYING, AND MY EXPERIENCE

by Julian Dellar

A friend of mine, both a player in my Dragon Age campaign and someone I used to catch up with on Sundays for a Gym session, spoke to me back in April about a game session he was organising between a group of his old friends. The different part of all this was that the GM is in Brisbane; two other players in Sydney and the final two players (myself included) are in Melbourne. He told me that the game would be hosted and run online. Details about the game session were later forwarded to me and the online system for the gaming environment was to be Rolld20.net.

Initially we had a few dry runs to test how the system worked and to make sure everyone could connect. We played around with using Internet Explorer (Ugh..) and quickly discovered that this browser had too many issues crashing (as expected). We then tried using Google Chrome - looked promising, but people kept dropping out after connecting and also there were issues with the audio cutting out. So finally we moved to Firefox and across the board it was the most robust browser to use and we have been using it now since May. Now if you've used Rolld20 in the past, you know that it has its own audio and video feed built in. We did try using that but we had a lot of issues again with audio and video feeds dropping out. One of the others players suggested we use Google Hangouts as Rolld20 had a plugin with this which would allow the use of both.

So our intrepid group of adventurers set out in Faerun using the Pathfinder system on Rolld20 through Google Hangouts. We started the group at Level 1 with an Illuskan Warrior, a Druid from a grove near to Waterdeep, a womanising Paladin of Tyr, a halfling Rogue and a fledgling sorceror (me). Our sessions run on a weekly basis of a Thursday evening and we game for around 3-4 hours. The group composition has change a little now since people have left the game and new people have joined. It's easy to add people simply by sending them an invite for the Google hangout session (which our GM does just before the start time).

This article is less about Rolld20 but more about the experience of using it but to help give some context about its capabilities, I will briefly outline some of the features it offers. Rolld20 is broken into two main parts on your desktop. You have an overland/dungeon map taking up the bulk of the screen and a scrolling chat window on the right hand side. Using a series of commands which can be programmed into macros that can be shown on the screen as clickable buttons, you can emulate any combination of dice rolls which are then shown to everyone or hidden and shown only to yourself and the GM. The GM has overall control of the playable area and they can put dungeon maps on the screen, which supports an option for dynamic lighting so they can show or hide areas of the map based on the light source you are carrying. When a combat begins, the GM activates the initiative table which appears on the play area as a pop up window which you can drag around. When it comes to your turn, you can manually control your character and move it around the play area and then attack, cast or whatever you choose to do backed up with the use of the dice macros and commands.

I would liken it to playing a board game but everything is done on a computer screen.

Pros

Because of the people playing the game, had we tried to get together to play it would have been impossible as we are stretched out across the eastern seaboard of Australia. Having an online hangout which we can use allows us to play the game from the comfort of our own homes. There's no need to drive or get to any place in particular so if you really wanted to, you could be sitting in front of your computer wearing pyjamas.

Which leads me to the voice chat and video option, our GM uses a program which allows him to replace his camera

feed with a picture of the NPC that is speaking (we still haven't convinced him to use different voices yet though..). The video chat option also allows a degree of interaction with the other players so that we can see what they are saying. Usually when the game is on though, we mute our cameras and have a picture of our character on the screen.

A lot of the automation built into the system allows us to create macros for rolling dice. Typically we have created macros that show the 'To Hit' rolls and then the 'Damage' rolls directly after it. It reduces a lot of the rolling dice, scrambling around under the table for the dice that decided to roll away and plus we don't have to work out the calculation every time as its all built in. Playing a sorcerer with a series of nuke spells – this becomes a lot easier especially when I'm casting an empowered Scorching Ray spell.

Location is not an issue. In my group we have people from three different states of Australia playing. I'm sure, if the time zone's permitted; it would be easy to have people from anywhere in the world playing. This sort of exposure to other players vastly increases the opportunities to find other people to play the game with, especially if you find it challenging to locate people locally.

Cons

It's far too easy to lose track of who is talking when things get a little excited. If one person starts talking at the same time as someone else, it's easy for the loudest person to dominate the discussion. This is no different than sitting around a table with players, but through Google hangouts it can become pretty difficult for everyone to be heard at times.

It lacks some of the social interaction aspect of the game. Often game sessions have the cheesy snacks and high sugar drinks which are shared around and there's the typical gamer banter that occurs. While the web-cam and audio feed does help with this a lot, there's still a bit of a detachment when playing the game.

For the gamers who like the tactile feel of the dice in their hands, the sound of the dice hitting the table as they wait hopefully for a success, or the character sheet with greasy cheese marks and coffee cup rings on it, then this is lacking.

Overall

I've made some new friends by being introduced to this gaming group and I've been exposed to a method of gaming which uses my computer from the comfort of my own home. I eagerly wait for my Thursday nights now and it is one of the highlights of my week. Cons aside, I think the use of Google Hangouts and Rolld20 are a positive option for people who also similarly enjoy roleplaying, especially by breaking down the distance barrier between players. While it won't ever replace all face to face gaming, it is a pretty close second and I would happily recommend it to others.

If you're interested in more information about rolld20, you can look on their website here: http://rolld20.net. There are also other sites that offer similar services like MapTools.

BLACK SIX – PL 10. MOUSE.

by Karl Brown

A PC/NPC for Mutants and Masterminds third edition from Green Ronin. This article was created with the aid of HeroLab software.

About Mutants and Masterminds

Mutants and Masterminds is a purpose built super-hero genre game with D20 as a very distant ancestor. The system is capable of handling an incredible range of scales and PCs able to travel hundreds of miles per combat round, grow to a hundred feet tall, or incinerate a city block are all possible as standard starting power level characters. The referee can set the power level lower if she wishes. The system is built around a flexible points based character generation much like Hero System or GURPS. Mutants and Masterminds characters can be fairly simple and easy to play or if various power enhancers are applied quite rules-complex. The character presented here is at the more complex end of the spectrum.

Black-6

Black-6 is a genetically engineered mouse cyber-linked to the internet from birth. The exact origin story of this mouse super-spy is intentionally left blank. Black six looks like an ordinary brown-black house mouse. The character is suitable as a NPC or PC in most super heroic settings. Here are some suggested uses:

PC

As a PC Black-6 is the party's super-spy able to sneak into any building and infiltrate even the most secure computer network. In a fight the mouse is not going to be a heavy hitter but with the ability to gather up a seething mass of mice with a combined mass of over a ton and seize control of automated defences and robots the mouse can contribute to any battle. Personality wise probably the best way to play the mouse is to walk the middle road between comic relief and the alien intelligence of an GMO mouse. Black-6 would desire friendship, respect etc like a human PC but not understand human behaviour properly and often react in a mouse-like way. A good model might be the dog 'cosmo' from Marvel's Guardians of the Galaxy.

Patron

With his underground base, access to the world's computer networks, and rodent spies everywhere Black-6 is in a great position to gather together a group of heroes to counter threats uncovered by his intelligence network. Again, tone wise Cosmo from Guardians of the Galaxy would be a good model.

Alternatively, the PCs might not know the identity of their mysterious patron. Black-6 could contact them only by computer or a synthesised voice over the phone. The PC's will be surprised when they discover the nature of their employer. For more fun the mysterious patron is playing them for fools, see insidious threat below.

Villain

As an NPC Black-6 can be ridiculous melodramatic villain. In this portrayal he is a megalomaniac who seeks to crush humanity and make the world safe for all mouse-kind. For this usage reveal the identity of Black-6 early on preferably with a overblown monologue describing his latest plan to exterminate verminous humanity. Delivering this speech in a falsetto squeak can only add to the effect. Unlike the insidious threat below, this version of Black-6 tends to end up confronting the PCs directly. The tiny megalomaniac should seize control of robots to augment the seething mass of mice in combat. As soon as the going gets tough Black-6 should easily be able to escape. After a few encounters the frustrated heroes are bound to start concocting a plan to capture the little menace once and for all.

Insidious Threat

In this treatment we play it straight. An alien mindset with goals hostile to humanity replaces comic relief. Think about it, what does a mouse want? A mouse wants to survive, to reproduce in great numbers, to eat, and to be free from predators (like humans). A mouse has no understanding of love or friendship and no altruistic compulsions. If not for their size and stupidity mice would be a horrible alien threat.

The genius mouse Black-6 sees humanity as a threat. After escaping the lab he has set about taking over the city from beneath. The PCs will start encountering wantonly destructive hacker attacks on local government, police, fire brigade and hospital computer systems. In the background first drop mentions of the appearance of dead mice (Black-6 is eliminating all the other male mice in the city) and later dead cats and dogs. Soon after people begin to report a mouse plague then homeless people are found eaten alive by hundred of tiny mouths. Once the local authorities are crippled, arsonist terror attacks on high-density human housing begin. As the PCs continue their investigations synthesised voices threaten them over the phone and they encounter huge seething masses of mice that break up and scurry away when the battle gets tough. Finally they figure out who the villain is and must face the terror in his network of tiny tunnels beneath the burning ruined city.

Caution
This character uses a lot of the more complex rules from MnM including linked and alternate powers. Take your time and review Black-6 carefully before using him in play. Not recommended as a PC for new players.

Attributes
Strength -5, Stamina -1, Agility 2, Dexterity -1, Fighting 1, Intellect 10, Awareness 6, Presence -3
Black-6 has a gene-enhanced brain and access to the net giving him super-genius level intelligence.

Advantages
Benefit: Athletics based on agility, Equipment 5, Languages 3 (see below).

Skills
Acrobatics 1 (+3), Athletics 4 (-1/+6), Close Combat: 'brawl' 15 (+16), Deception 5 (+2), Expertise: Conspiracy Theories 1 (+11), Expertise: Current Events 1 (+11), Expertise: Hacking 10 (+20), Expertise: Maps 1 (+11), Expertise: Politics 1 (+11), Expertise: Science 1 (+11), Insight 1 (+7), Investigation 1 (+11), Perception 10 (+16), Persuasion 1 (-2), Sleight of Hand 1 (+0), Stealth 10 (+26), Technology 9 (+19), Treatment 1 (+11)
Note that his expertise skills can be enhanced by using his 'super' wireless connection to the internet (see below).

Powers
All your bases are belong to us!: Concentration Cumulative Affliction 10 (1st degree: Dazed, 2nd degree: Disabled, 3rd degree: Controlled, Resisted by: Will, DC 20; Concentration, Cumulative; Limited: only objects and constructs with wireless or internet connection, Sense-dependent: radio/internet)

At one with the net: Enhanced Trait 5 (bestowed, technological, Expertise +10 (+21); Limited: Only where mobile internet is available)
Memebase and io9: Enhanced Trait 5 (Alternate; Traits: Expertise +10 (+20); Limited: Only while online)
Navman and GoogleEarth: Enhanced Trait 5 (Alternate; Traits: Expertise +10 (+21); Limited: only while online)
Polls and analysis: Enhanced Trait 5 (Alternate; Traits: Expertise +10 (+21); Limited: only while online)
Searching screeds and rants: Enhanced Trait 5 (Alternate; Traits: Expertise +10 (+21); Limited: only while online)
WoS and blogs: Enhanced Trait 5 (Alternate; Traits: Expertise +10 (+21); Limited: only while online)
Enhanced biology: Regeneration 10 (bestowed, biological, Every 1 round)
Enhanced Immune System: Immunity 3 (Aging, Disease, Poison)
Every blow is dodged!: Enhanced Trait 9 (Traits: Parry +9 (+17); Innate)
Gene Spliced Brain: Enhanced Intellect 2 (bestowed, biological, thought, +2 INT)

Mouse movement
   Burrow: Burrowing 1 (Speed: 900 feet/hour, 1 foot/round; Innate)
   Mice are good swimmers: Swimming 1 (Speed: 1 mile/hour, 15 feet/round; Innate)
   Scurry: Movement 3 (Safe Fall, Slithering, Sure-footed 1; Innate)

Rodent Senses: Senses 3 (Acute: Smell, Low-light Vision, Ultra-hearing; Innate)

The internet is my brain!: Enhanced Intellect 12 (invented, technological, +12 INT; Limited: Only when mobile internet is available)

Which mouse?
To simulate his mouse control I have used several different powers and linked them to give maximum flexibility. All by himself Black-6 uses 'A mouse'. To simulate a seething mass of mice with Black-6 in the centre I have represented the swarm as a single combatant the 'Mouse Swarm!' with variable growth and regeneration. He can also control mice as individuals. All of these are subject to a power loss limitation; the powers don't work if there are no other mice about. Normally, Black-6 will gather a dispersed following using his rodent control so only in very special circumstances will the power loss be a problem for him.
   A mouse: Shrinking 14 ([14 active, 29/29 PP, 2/r+1], -3 STR, -7 Intimidate, +14 Stealth, +7 active defenses, -3 size categories, -1 speed ranks; Innate)
   Mouse Swarm!
     Flowing little bodies: Insubstantial 1 (Linked; [1 active, 29/29 PP, 5/r], Fluid)
     Hundreds of eyes: Enhanced Trait 5 (Linked; [5 active, 29/29 PP, 1/r], Perception +10 (+26))
     Hundreds of mice: Growth 6 (Linked; [0 active, 29/29 PP, 2/r], +6 STR, +6 STA, +3 Intimidate, -6 Stealth, -3 active defenses, +1 size category)
     Hundreds of mouths: Strength-based Damage 5 (Linked; [5 active, 29/29 PP, 1/r], DC 15)
     They keep coming!: Regeneration 1 (Linked; [1 active, 29/29 PP, 1/r], Every 10 rounds)
   Rodent Control: Concentration Burst Area Mind Control 4 ([0 active, 29/29 PP, 7/r], DC 14; Burst Area 3: 120 feet radius sphere, Concentration; Limited: only rodents)
Wireless and Mobile Receiver: Senses 1 (Radio; Limited: Wireless and mobile internet and phone only)
Wireless and Mobile: Radio Communication 1 (Sense Type: Internet connection; Limited: wireless and moblie internet and phone only)

Equipment
Cell Phone (Smartphone), Toolkit (Basic), Video Camera
Often Black-6 ventures out without any gear to better blend in with other mice.

Offense
Initiative +2
All your bases are belong to us!: Concentration Cumulative Affliction 10, +1 (DC Will 20)
Grab, +1 (DC Spec 5)
Hundreds of mouths: Strength-based Damage 5, +1 (DC 15)
Rodent Control: Concentration Burst Area Mind Control 4 (DC Will 14)
Throw, -1 (DC 10)
Unarmed, +1 (DC 10)

Complications
Disability: Mouse: Physically Black-6 is an ordinary little black mouse. As well the non-humanoid shape he faces issues socially as well.
Power Loss: Mouse Swarm: Typically, Black-6 uses his powers to keep mice nearby when he travels enabling him form a swarm or other effects readily. However, if separated from this roaming dispersed population when there are no other mice nearby his mouse swarm powers become useless.

Power Loss: Fear the Faraday Cage: Many of the mouse's powers rely on access to the internet.

Languages
Chinese (Mandarin), English, Japanese, Mouse

Defence
Dodge 9, Parry 17/7, Fortitude -1, Toughness -1, Will 6

Power Points
Abilities -4 + Powers 108 + Advantages 9 + Skills 37 (74 ranks) + Defences 0 = 150

A labyrinth of tiny tunnel beneath the city - PL 10

Toughness 14, Size Awesome

Features:
Concealed 2, Laboratory, Living Space, Personnel, Power System, Security System 3, Workshop
This gives you a fair bit of leeway to describe the base to fit what you need. A patron Black-6 will have old subway stations and other human size accommodations. An insidious threat Black-6 would not.

Power Points
Abilities 6 + Powers 0 + Advantages 0 + Features 10 + Skills 0 (0 ranks) + Defenses 4 + Equipment 0 (0 ep) + Weapons & Armor 0 (0 ep) = 20

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A copy of the Black-6 file for HeroLab can be obtained free by emailing me at karl@rpgreview.net

MOVIE REVIEW: OBLIVION

by Andrew Moshos

by Andrew Moshos

dir: Joseph Kosinski

The global obsession with obsessively destroying the globe continues…

This is film #437 to come out this year which either has the world about to be destroyed or a world already destroyed as its setting.

When will they just leave the world alone? What did it ever do to you? Why do you always have to be wrecking the place? Get your feet off the couch, and put that beer on a coaster, that coffee table is mahogany, arsehole!

A while back I would have said these flicks of a pre or post-apocalyptic nature reflected our anxiety about the place actually being destroyed, as in we feared nuclear war or pollution or some other catastrophic fuck up permanently. The wrecking of the world would probably be the highest stakes that a film could put up, and so you'd think we'd have to take it really seriously and really care.

Since we see a flick come out almost every week with a world on the brink or just flat out ruined already, I think it signifies that we just gave up being scared about it. We no longer fear that the world will be destroyed, or at least the people at the studios think it's no longer that shocking for us. It's commonplace, it's every day now to think about a world destroyed. And even though we're not going to be able to get internet connectivity or soy lattes in a ruined world, whether it's crawling with mutants or completely poisoned, we're resigned to it, and we're looking forward to what comes next.

Welcome, thus, to a world devoid of people, a graveyard for humanity. And, to not only add insult to injury but to rub arsenic and acid into the wound, one of the last people on earth is Tom Cruise.

Perhaps not Tom Cruise himself, but Tom playing a character called Jack. People mocked him for his crazy Scientology beliefs, but look where they got him, lording it over the broken remnants of civilisation like the king that L. Ron Hubbard promised him he would be.

It was either L. Ron Hubbard or Philip Seymour Hoffman, I'm not sure which one.

The whole premise is laid out for us in Cruise's clipped narration, right at the beginnning, not that it helps us at all. As best as we could work out, 'we' being my partner and I, the only two people left awake on Earth after a Tom Cruise narration, the Earth is fucked.

An alien race he calls Scavengers came to our planet, blew up the moon, killed almost everyone on the planet, and were finally beaten in a catastrophic nuclear war. This war killed off almost everyone that was left, and rendered the planet unliveable. Humanity decided "Screw this, we're out of here" and decided to shuttle everyone that was left to one of Saturn's moons called Titan.

I'm not much of an astronomer, but even I know that humans on Titan is a bit of a hard sell, what with it not having any oxygen and being 200 degrees Celsius or so below zero and all. But who am I to argue with the High Pope of Scientology?

If he says that's where humanity have skedaddled to, then I have to believe that's the case. Jack and his co-worker Victoria (Andrea Riseborough) are the last two people on Earth, whose job it is to oversee the functioning of these drones which protect these vast machines that are sucking up the world's oceans and converting them to... something, I'm not sure what, but the idea was to extract these last resources left on the planet and send them to Titan.

Apart from all the voiceover telling us a lot we probably didn't need to know, there are probably two points which are meant to be the most important. Well, one of them is important, the other is said in such a strange, unadorned way that we're probably meant to forget it and then go "Ah, yeah, I guess that's what that meant" when it comes up again later.

I think it's the first thing Jack says, something like "Five years since mandatory memory wipe". That's odd. They never give us a reason for the procedure. I wonder what it could be?

The other point jolly Jack makes is that in two weeks he and Victoria are juuuuuust about done sucking up the Earth's resources and transporting them to some floating satellite type structure they call the Tet, which I guessing is short for tetrahedron rather than celebrating the Vietnamese new year.

Look, I don't know what they're doing, I just know they're doing it. Jack goes out and repairs drones, Vicky coordinates the repairs and oversees his actions from the safety of an incredibly high tower in the sky.

They are, as you would imagine the last two people on Earth would be, incredibly bored with each other. It's not that they would cheat given the chance, but when you're the last two people on Earth, how much of a charge is there in fucking each other? You might think they could at least fantasise about having sex with someone else, but the memory wipe's put paid to that.

The poor darlings. A dull sex life is the last of their worries, though, because there are still doings transpiring on Earth, and Jack keeps having these memories of a Russian girl (Olga Kurylenko) who he may have only seen in one of the recent Bond films. What could this memory mean, of meeting her at the Empire State Building, a place long destroyed, long before he could have been there?

And who keeps following Jack, keeping track of him, watching him in the shower, going through his stuff, admiring him from afar, sending him creepy texts?

Yes, there are obviously mysteries here, and it would be monstrous of me to spoil them for any potential reader/viewer. Though there are action sequences here, this should definitely not by mistaken for a full on action sci-fi flick. It is certainly what I would call a hard sci-fi film, because the premise and the plot are pretty convoluted, though it's nowhere near that complicated (since anyone that's watched science fiction movies over the last twenty years will be completely unsurprised by any of the reveals, and will probably feel deflated by the end at how generically it resolves.) But it's not straight forward. They (pointlessly, in my opinion) trusted that the audience would be able to follow what's going on, without degenerating into reams of exposition. It's just that the explanation isn't all that satisfying.

I couldn't say we come to care about the Jack character, because, honestly, it's Tom Cruise. Who cares about any character Tom Cruise plays any more in any movie with any theme or premise. We accept begrudgingly that he is in the flicks he makes, and we hope his presence won't be too distracting. He is in almost every single scene, so it would be impossible to ignore him, however the movie is impressive enough in its scope to allow us some room to breath.

I'm surprising myself by saying this, but I did not hate this flick. I enjoyed plenty of it. I don't think it raised any philosophical questions, or concepts of identity, or anything that even vaguely made me think any deep thoughts. It's a competent sci-fi flick without being a particularly great one. I think most of the 'pleasure' of watching it, if such a word can be used appropriately, is that much of the time we are seeing a world without us. I think that's actually a pseudo-documentary show on one of the cable channels, maybe National Geographic or whichever one doesn't show endless Nazi docos or Real Housewives – cooking porn reality programming. The World Without Us, I think it's called.

Humanity's end never looked so beautiful, so depressing. It reminds you that a time will come even if the makers of these post-apocalyptic flicks don't get their wish where there won't be a thing to show that any of us were here, one day hopefully far far far into the future.

And maybe that's a good thing. If the flick has a theme, it's that we are our memories, and that humanity's capacity for survival is stronger than its seeming capacity to destroy. Or maybe I'm reading more into it that was required. I admit that there may have been parts of the flick that I didn't understand, but it didn't seem like it mattered that much, in the end (like the stuff about the beacons), because in the end, Tom Cruise is the hero, and of course he's going to do the heroic thing, and possibly swear while doing it.

Take that, Xenu, I'm sure he wished he was saying, take that you nasty world gobbling bastard.

And everyone else, or at least whoever is left, will get to go along their merry way

So, in summation, looks pretty, doesn't mean that much, get the whole family to watch long after the end of the world.

6 times one Tom Cruise is barely enough to fill out the contours and textures of one film out of 10

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"Are you an effective team?" – yes, we're an effective team, stop asking every few seconds - Oblivion

Originally published at http://movie-reviews.com.au/node/1892

MOVIE REVIEW: WORLD WAR Z
by Andrew Moshos

dir: Marc Forster

I wonder if there is anyone on the planet not sick of zombies as yet.

We, and I'm speaking on behalf of all of cinema-going humanity here, are even more sick of zombies than we are of vampires. I am so sick of vampires and zombies that I generally avoid new movies with them even if people I really like are in them, and I hear that they're good films. I'm sick of them all, and I can't be summoning the energy and time to watch them and review them, I just can't do it.

Except for this one. Come on, I was curious.

I have read the book this is based on (another reason for my undead care-factor fatigue), but the film has about as much to do with the book as any other flick about zombies has to do with the book: they've both got zombies in them, and that's about it.

Out of the dry reportage of the novel comes a story with an allegedly relatable hero (Brad Pitt, as if any mere mortal men can relate to him) and a story at a scale we can grasp despite it being about a global epidemic of flesh-chomping. It's the right approach, I guess. They also have to make it even more relatable by making the main guy motivated to find a solution to the zombie apocalypse by his having a redheaded wife and redheaded children: so if he doesn't find a 'cure' or whatever, not only will everyone die, but some redheads too!

I guess it's an extra kick, as if, you know, without the personal dimension, well, he just would have thought "Fuck it,

can't be bothered saving the world today, maybe I'll get right on it tomorrow, or maybe the day after, since little Rachel has swimming practice and Connie has the sniffles" and spent the rest of the flick with his feet up in a hammock drinking Pabst Blue Ribbon.

Brad Pitt plays possibly the most unlikely character he's ever played, being some kind of former United Nations investigator who's good at investigating things, or so they say. I mean, he couldn't have that much experience investigating zombie apocalypses, since this is the first one, as far as we know. Maybe he's watched all three seasons of The Walking Dead, and read all the books, and knows the works of George Romero inside out? Maybe that would make him eminently essential right now?

The military / UN / bureaucrats left, once most of the world has already been chomped on, manipulate Gerry into finding out how to stop this "thing", whatever this "thing" is, by holding his family ransom. They actually say something like, "Do what the hell we say, or we're going to kill your family by kicking them out of sanctuary."

I'm all for managing by example, or motivating people to get the best results, considering my extensive experience with being a manager, but someone threatening my family in that manner because of a zombie apocalypse would have more to worry about from me than the zombies. It would make me want to side with the goddamn zombies, that's for sure.

Gerry (Pitt) embarks upon a globetrotting journey, in an era where getting around is pretty difficult because of all the very fast moving zombies, in order to track down the origin of the outbreak. See, we think it's a zombie action film, but we're the fools, because it's really an Outbreak film, as in, a film where there's too many monkeys and not enough Dustin Hoffmans.

In many ways, ones that may affect your enjoyment either way, it skips around many of the standard zombie action flick tropes and relies more on the tropes of epidemic flicks. But then it pulls another trick along the way to the end that comes straight out of what I like to call the Morgan Freeman Voiceover basket (it has nothing to do with voiceovers), where the solution seems to be something so simple and ever present, all part of God's great plan, which could be so trite that it makes you want to punch a basket full of kittens in the face.

Might, I said, not will, but might.

It's impossible for me to watch a fast zombie film and not think of pretty much the only good fast zombie flick, being 28 Days Later. True, 28 Days Later might just have been the greatest just because of the Mogwai soundtrack, the shots of a deserted London and the slick, sick direction of Danny Boyle (sorry, Oscar Award-Winning Director Danny Boyle), but it made the focus of the whole film rest not upon the actions or the threat of the Infected, but on the actions of the humans left behind, and what they now feel free to do upon each other.

There's only a smidgen of that here. Major difference as well here being that the setup, for our purposes, beginning in America shows, in the first five minutes of the flick, the American public turning into rampaging, riotous, murderous gun-totting rapists the second something seems to go wrong. The Brits, however ruthless, looked after each other. Must be that Keep Calm and Carry a Machete spirit of the Blitz coming through.

The power goes out and it's on for young and old, in the States, on the other hand. They lose their internet connectivity and start murdering their neighbours for the spare change in their pockets and the unchewed peanuts in their mouths! It never ceases to amaze me as to how little faith American screenwriters have in the capacity of their fellow Americans to deal with any adversity in a calm or compassionate manner.

Gerry's not like that, though. To him, because he's investigated massacres and war crimes / human rights abuses, the threat of the zombies isn't that much more daunting that the threat of child armies and civil wars, which are awful enough. So he, leading by example, tries to exhibit compassion along the way, saving who he can while defending his

family first. You know, the way decent people do.

Some of these action sequences, in a flick that isn't overflowing with them, are so chaotically shot and edited that they are the visual equivalent of a migraine. There were times I just closed my eyes and waited for the frenetic camerawork to be over before opening my eyes again and attempting to figure out what had happened by who was left alive.

This is not a big action flick. I'm sure it cost hundreds of millions to make, but it's scaled down in some odd ways, perhaps because they ran out of money or the desire to keep going. It really feels like they were going to make it look like the end of The Avengers at some stage, but then someone wise decided "Nah, let's go small". I'm not going to credit Brad Pitt with anything close to wisdom , but considering his involvement on the production side of this flick, it's possible he stepped up, bit the bullet, and said, "Okay guys, let's make the ending all about me saving the world in a really chilled manner."

And I don't fault him for that, or pretty much anything else he does in the rest of the flick. Many of Pitt's performances have irritated or outright annoyed me in many of his other flicks, but he was decent and not aggravating here. He's mostly just flying around the world, chatting to people in a subdued manner, and killing zombies when he has to, but he does a good job shouldering the immense burden of carrying such a tired and overly familiar premise.

On his travels he gets to visit zombie-infested South Korea, Israel, and Wales, making this probably the most anti-James Bond-like travelogue thus committed to film. To make it even more downmarket, maybe they should have had him go to Adelaide, Stuttgart, Detroit and Slough.

In Israel, in a strange choice that really works for the film, he saves the life of a young Israeli soldier with a very radical intervention, and they form an unlikely bond. I couldn't tell you that much more about her other than her name, being Segen (Daniella Kertesz), and her shaved head, but her strange presence adds something to the flick, especially with the affection (father-daughter type, you pervs, get your minds out of the gutter) they show each other in times of overwhelming horror.

Together they get involved in what is probably the best action scene of the flick, onboard a plane fleeing the carnage. I'm not talking about what follows, I mean the scene where someone dresses someone's wound while pouring vodka from those little plastic bottles all over the place. Yeah, real sterile, that. Why not use what's in the medkit instead?

Much has been made of the toned down nature of the movie, in that for some people it wasn't bloody enough, a PG-13 rating robbing it of the seriousness and gore it probably deserved. I don't really think it would have added that much had it been more violent. It was plenty frenetic and horrifying when it wanted to be. I find these hideous creatures horrifying, sure, but to me they could be anything. Whether they're zombies or mutants or vampires or monkeys or aliens or angry ponies, it's all the same crap to me. I care not one whit about them, and whether they're a credible threat or not, but about whether I'm interested in seeing the good guys triumph.

I won't say I cared by the end of the flick, with its pat ending and comfortable ease with which it resolves things, but I didn't want the zombies to win by the end of it, so that has to count for something.

7 times it's hard to watch the zombies scrambling up the new Wailing Wall without thinking of current Israeli-Palestinian relations out of 10

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"Most people don't believe something can happen until it already has. That's not stupidity or weakness, that's just human nature." – it's also the reason every film looks and sounds like every other film as well – World War Z.

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IN THE NEXT ISSUE OF RPG REVIEW

"Continuum – The Survivors of the Roleplaying Game Market"

A special edition of RPG Review dedicated to games … big and small ...that have survived and flourished over the last thirty years: Dungeons & Dragons, RuneQuest, Traveller, Tunnels & Trolls, Chivalry & Sorcery, Gamma World... and more!