

Asynchronous Multiplay

Futures for Casual Multiplayer Experience

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ABSTRACT

Big budget, high commitment 3D MMORPG's have generated significant revenues and theoretical bounty. But these games still alienate most casual players. This article offers a promising future for multiplayer experience, especially casual experience, in the form of asynchronous multiplayer games, or games in which small or large numbers of players play a game in sequence rather than simultaneously.

Author Keywords

Asynchronous, MMOG, MMORPG, Casual Games, Online Games

MMOG'S AND THEIR DISCONTENTS

With the rising popularity of Massively Multiplayer Online Role-Playing Games (MMORPG's) like *EverQuest* (Verant 1999) and *Star Wars Galaxies* (Sony Online Entertainment 2003), it's no wonder these are the kinds of games we think of most when confronted with the idea of multiplayer games.

Even though Multi-User Dungeons (MUD's) predate games like *EverQuest* by two decades (Bartle & Trubshaw 1979), it was the sublime allure of graphical MMOG's that won the genre broad public interest. Graphical MMOG's are a relatively new kind of multiplayer game, made possible by a convergence of game technology advances and adoption, including reduced server hardware costs, increased broadband penetration, and market tolerance for subscription-based entertainment. *Ultima Online* (Origin Systems 1997) launched the genre in earnest in 1997, with notable followers *Lineage* (NCSOFT 1998) in 1998, and *EverQuest* in 1999. Around the

same time, Internet deathmatch games like *Unreal Tournament* (GT Interactive 1999), and free-for-all strategy games like *WarCraft III* (Blizzard 2002) also capitalized on 3D graphics and high-speed networking to deliver graphically rich, immediately gratifying multiplayer experiences.

All of these games allow *synchronous*, or simultaneous play, meaning that many players — sometimes tens, sometimes tens of thousands — play the game at the same time. For some games, synchronous play is simply essential; imagine playing an Internet deathmatch all alone. And the widespread penetration of MMOG's, both as a gaming activity and as a social meme, has reinforced the idea that synchronous play is the apotheosis of multiplayer gaming.

With so much attention focused on synchronous multiplayer gameplay, non-simultaneous, or *asynchronous*, multiplayer gameplay is in decline. And while synchronous multiplay does contribute to a whole universe of rich social dynamics, asynchronous multiplay offers a form of casual multiplayer gameplay that could prove equally, if not more influential than synchronous play, especially in the future subgenre of casual MMOG's.

WHAT IS ASYNCHRONOUS MULTIPLAY?

Before discussing specific examples, I want to take some time to explain the characteristics I think typify the asynchronous multiplay. These characteristics are not meant to define such games as exclusive of and opposed to synchronous multiplayer games, or of any other genre of game for that matter. Rather, I

hope these characteristics will help identify the traits of asynchronous play styles, which in turn may show up in greater and lesser forms in games of all genres.

Characteristic 1

Asynchronous play supports multiple players playing in sequence, not in tandem

The number of players could range from two to tens of thousands depending on the game's design, just like synchronous play. However, in asynchronous play, those players never play the game at the same time. Instead, players play in sequence, one after the other. In some asynchronous games, one player immediately follows another, in others a duration of time elapses between players. Play might take place on the same computer, console, or device, or it might take place on separate devices.

Characteristic 2

Asynchronous play requires some kind of persistent state which all players affect, and which in turn affects all players

In MMOG's, this is typically called *Persistence of World* (POW). POW allows the game world to continue even when the player is not playing the game. In an MMORPG like *EverQuest*, players exchange objects, wealth, and engage in combat, creating semi-permanent in-game effects that propagate in other players' experiences. In games like *WarCraft* and *Unreal*, player damage to buildings might persist even after that player leaves the arena.

In MMOG's, POW is maintained on a central server or database, so that any player who logs into the game will connect to the same persistent world. Complete POW is rarer in asynchronous play. Asynchronous multiplayer games may rely on online connectivity and network storage to persist data about the game, they may rely on local storage methods (such as disc drives and memory cards) or they may rely on distributed storage methods (such as email and SMS).

Characteristic 3

Breaks between players are the organizing principle of asynchronous play

Just as simultaneous, collaborative play is the hallmark of synchronous multiplayer games like MMORPG's, sequential, disrupted play is the distinguishing trait of asynchronous multiplayer games. As such, asynchronous gameplay relies on meaningful use of these disruptions as wellsprings for game experiences. This means that good asynchronous multiplayer games design these fissures as centerpieces, rather than detours.

Because it is designed principally around breaks in gameplay, asynchronous play is inherently more casual than synchronous play — it demands fewer time synchronies between players and allows more flexibility on the part of individual players.

Likewise, because player obligations outside the game often engender breaks in gameplay, asynchronous play typically orients itself as much to the world outside the game as inside the game. In *Animal Crossing* (Nintendo 2002), which I'll return to in more detail later, the game time is synchronized to real time. If the player is playing in the winter at night, the game world will appear dark and snowy.

Characteristic 4

Asynchronous play need not be the defining characteristic of a game

There are plenty of games that incorporate synchronous multiplay as an optional extension of the primary game, such as *GoldenEye 007* (Rare 1997), which tacked a satisfying 2 – 4 player deathmatch mode onto a primary, single-player adventure mode. And while there are precedents for synchronous multiplay as a supplementary, rather than primary design, those precedents are few. One example is the Twingle Tuner feature in *The Legend of Zelda: Wind Waker* (Nintendo 2003). The primary game mode is a single-player quest played on the Nintendo GameCube

console. If the player rescues a character named Twingle, he can make use of this new friend to give tips and show hidden objects. But to use Twingle, the player must connect a GameBoy Advance (GBA) to the secondary controller port. The GBA shows an overhead map of the area the player currently occupies. A second player, playing in synchrony with the primary player, can maneuver Twingle on the GBA, then relate key information to the primary player by voice.

In many games that feature asynchronous multiplayer, mutiplay itself is optional, an addendum to an entirely adequate and complete single-player experience. In other cases, such as *The Howard Dean for Iowa Game* (Persuasive Games 2003) I will discuss later, players may not even know that they are engaging multiplayer aspects of the game. Asynchronous multiplayer can stand as one among many defining features for a game.

That said, the asynchronous qualities of a multiplayer game can provide rich fodder for analysis. While the asynchronous multiplayer elements of game may facilitate only a peripheral part of the experience, they may also point to the more interesting cultural, social, or functional aspects of the game.

Corrolary

Asynchronous play isn't related to asynchronous network I/O

This is a rather academic point, but one worth mentioning. Every synchronous play game has to manage complex network operations to pass requests between one or many host servers and a large number of client computers. These transmissions are usually managed via direct socket connections between the computers. In networking jargon, there are three basic types of socket networking: *blocking*, *non-blocking*, and *asynchronous*. When a program sends a message on a blocking socket, all other program execution ceases pending a response from the remote computer. When a program sends a

message on a non-blocking socket, program execution continues, but the calling program has to poll the socket to see if any action is required. When a program sends a message on an asynchronous socket, program execution continues, and polling takes place automatically. Asynchronous sockets automatically fire events in the calling program when socket actions take place, allowing the program author to implement event handlers for each.

In most cases, asynchronous sockets are the most efficient choice for simultaneous play multiplayer games. In a 3D MMOG, a whole host of events take place at once, from text messages between players to coordinates for objects to projectile trajectories. In these cases, performance requirements prescribe asynchronous sockets (for an overview of socket programming for games, see Sikora 2001).

Even though asynchronous network I/O does have a role in facilitating certain types of multiplayer gameplay, asynchronous play does not require asynchronous network I/O. Because asynchronous I/O is mostly used to manage messages between simultaneous players, such complexity is usually absent from asynchronous play, accommodating much simpler networking technologies.

In short, there is no necessary correlation between asynchronous play and asynchronous data communication.

PRECEDENTS

Asynchronous mutiplay is far from new design technique. One could even argue that every board game, from *Senat* to *Candy Land*, sports an asynchronous multiplayer design. I would argue that board games deemphasize the breaks between individual players' turns. These gaps are a necessary feature of board games, and indeed they may facilitate strategic reflection on the state of the board, but such matters are a necessary accident of board games, not an outcome-motivated design

decision. Otherwise put, the break between players in board games is a formal, rather than an elected characteristic.

Diplomacy and Play-by-Mail

Nevertheless, there are precedents for asynchronous multiplayer in board games, such as Allan B. Calhamer's *Diplomacy* (Calhamer 1954). *Diplomacy* is a strategy war game set in pre-World War I Europe. But whereas most strategy war games, such as the equally popular *Axis & Allies* (Milton Bradley 1984), use dice to manage battle outcomes or player movement, *Diplomacy* relies entirely on direct negotiation between players. The game eliminates chance entirely.

Each player controls one of the powers of pre-WWI Europe. Instead of taking turns moving players, all players submit moves for their units — armies and fleets — at the same time. Between turns, players are encouraged to establish or betray partnerships and agreements. Because each power has different strengths and weaknesses, the game relies on negotiation and intrigue. Immensely popular among strategy game buffs, legend has it that *Diplomacy* was the favorite game of both John F. Kennedy and Henry Kissinger.



Figure 1 – *Diplomacy*® was first sold in 1959 and is currently published by Hasbro®

The problem with *Diplomacy* is that it's quite hard to organize a game. The game

advertises play for 2 – 7 players, but gameplay is tuned for 7 players. To play effectively, game organizers have to assemble at least six friends for an immense block of time (matches often last five or ten hours). To combat these challenges, *Diplomacy* players began relying on play-by-mail communities.

Play-by-mail (often abbreviated PBM) requires each player to send in his or her moves to a central agent, called a game master. The game master notifies players of all moves in a turn and also adjudicates complex moves or disputes. *Diplomacy* players began to aggregated PBM game reports in centralized fanzines. The website diplom.org still publishes *Diplomacy* zines five times a year and also facilitates play-by-email (PBeM) games.

Because the game relies so heavily on negotiations between players, secrecy is a staple of *Diplomacy* matches. In a face-to-face (FTF in PBM jargon) match, each player witnesses opponents' conversations, or at least sees one player take another outside the room to discuss strategy. All players write and submit their moves to a central repository, so nearby players can easily see when their opponents decide moves.

As such, it proves much more desirable to play *Diplomacy* asynchronously, each player deciding moves in private and then submitting them to a central adjudicator, unbeknownst to the other players. Technically this sort of play is possible in an FTF game, but PBM play opens up new strategic frontiers; for example, players can continue negotiating with their opponents even after having submitted their moves. More importantly, by increasing the duration of negotiation opportunities in both time and space, these breaks between plays gain significant momentum. Whereas players in an FTF game have to think strategically about how to go about their negotiations *in addition to* the content of those negotiations. In a PBM game, players are free to use normal, everyday means to negotiate and defy their alliances, such as telephone, email, casual meetings at work, and so forth. Gameplay in *Diplomacy* is

inherently asynchronous, but the addition of PBM play accentuates the opportunities for negotiation, increasing the intrigue and therefore the quality of the game.

Because *Diplomacy* is a board game, the board itself maintains persistence, although each player had to manually update their own board for every move. Provided players have a free card table to leave their game for the weeks at a time, PBM also frees players from the potentially oppressive monotony of an FTF game. Five to ten hours is a long time to do *anything* in one stretch, and *Diplomacy* matches often involve a lot of downtime and waiting while other players plan their moves. PBM turns an otherwise intense, strenuous game into a more casual game.

Battlemail, the platform PBeM

Even though PBM moves *Diplomacy* closer to a casual game for history buffs rather than a marathon game for wargame geeks, none of the game's publishers ever advertised or managed PBM play. The PBM movement was fan-driven, and therefore remained more of a fringe activity for hard-core insiders. Today, even though board game giant Hasbro publishes *Diplomacy* in many mainstream retail stores, PBM and PBeM play remain notably absent from the game box. Moreover, playing a PBM game requires that every participant have their own copy of the game, a feat not easily achieved for pick-up players trying to recruit friends and family.

The ease of Internet distribution quelled such worries for now-defunct game publisher BattleMail.com. BattleMail created a series of casual PC games that relied entirely on PBeM play. The company released a number of games on the same platform, including soccer and joust, but their canonical release was *BattleMail Kung-Fu* (BattleMail.com 2001). Players downloaded the game for free and played by selecting an attack and defense maneuver for a round of fighting. The player then sent their moves to a friend via email from within the game interface. Upon receiving the email, the opponent would

download the game if necessary, then input his own defense and attack moves, and both players would watch the animated outcome in the game interface. There was no strategy in the game — it was just a Ro-Sham-Bo of chance moves: attack (or defend) high, middle, or low. If you chose to attack high and your opponent defended low, you'd score a hit.



Figure 2 - The *BattleMail Kung-Fu* interface

The game also featured worldwide league tables published online. These tables constituted the game's persistent state; natural competitive instincts encouraged players to improve their ranking by recruiting new players, which contributed to the game's brief but significant virulence. Players could also earn special moves through experience, although these moves added no strategic tenor to gameplay. *BattleMail* was not a twitch game; it demanded only push-button dexterity, so anyone could play effectively. While such mechanical egalitarianism evened the playing field between gamers and casual players, the game's total absence of strategy quickly tired even the casual players. Some devoted players with technical skills turned to hacking the game files to insure perfect matches (see <http://noisybox.net/computers/BattleMailCheats/> for a typical example). To top it off, the publisher's utter inability to monetize the game led to the product's quick, quiet demise.

Despite its commercial failure, *BattleMail* offered an important innovation in asynchronous multiplayer: it integrated the sequence of play with an automatic

dissemination system — email — that was already already widely used and understood. By coupling casual asynchronous play with a ubiquitous delivery system, *BattleMail* succeeded where *Diplomacy* hadn't, offering a style of casual asynchronous play that players intuited immediately.

Asteroids and Personalized Persistent Scores

One of *BattleMail*'s key motivators was public tournament standings. The game harnessed players' competitive spirits to drive the viral spread of the game. Persistent scoring is a longstanding, even if seemingly obvious, kind of asynchronous multiplayer.

Early games like *Spacewar!* (Russell 1962) and *Pong* (Atari 1972) only played as multiplayer games, although as synchronous multiplayer games; in such games, two players competed against one another, head to head. *Space Invaders* (Bally/Midway 1978) was the first game to track high scores across individual games, but *Asteroids* (Atari 1979) was the first game to allow players to personalize a high score with their initials.

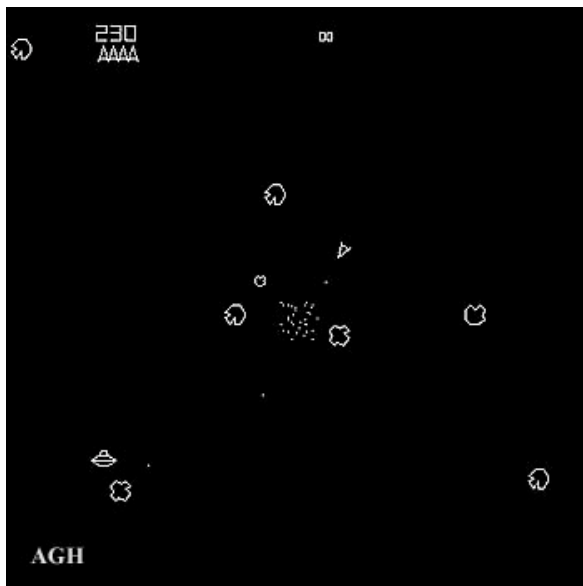


Figure 3 - *Asteroids*, the first game to feature high scores with player initials

This seemingly innocuous feature ushered in a wind change in arcade social practice. Game critic website GameSpy.com characterized the

innovation this way, “*Asteroids* was the first video game to take the idea of multiplayer competition beyond one-on-one challenges that had no consequences beyond the actual players. *Asteroids*' High Score board meant that players didn't have to play the game together in order to compete with one another, they could compete against a whole community.” Eventually, the high score list subordinated single-player gameplay to asynchronous multiplayer gameplay. Instead of a game played by one person at a time, *Asteroids* became a game played in aggregate by the entire visitorship of a local arcade. In some cases, players competed against friends for rank on the high score list. But more frequently, top score holders were semi-anonymous legends, specters that players would try to catch, or if they couldn't, deride in with a three letter defamation, such that the high score list might display something like:

SBJ	23000
SUX	21500

Even though the persistence in *Asteroids* is limited to a set of three-digit codes, the high score list transformed the game from a solitary challenge — man against rock — to a social challenge — man against man. The space combat gameplay itself became a medium for social combat in the arcade. High score holders felt compelled to return to the arcade to see how their renown had fared in their absence. Playing for a high score necessarily entails ceasing to play so another player can issue a challenge; a high score is less of an achievement than a challenge. Motivated disruptions between *Asteroids* sessions thus become even more integral to the game than space combat.

Strategy, Agency, and Automatism

Giving their games away for free contributed in part to BattleMail.com's demise. The game's lack of strategic merit couldn't make up for its creative implementation of an *Asteroids*-style high score list. What *BattleMail* lacked was meaningful personal agency. Player actions mattered in the context of a specific battle, but

no single action mattered more than another; the game was decided entirely by chance.

Shortly after *BattleMail* made its way from inbox to inbox, Sony Pictures released a game built on the license for the forgettable Jet Li vehicle *The One* (Wong 2001). The game extended and corrected *BattleMail*'s gameplay, offering improved strategic play and a less invasive player communication system.

The game, also called *The One* (Media Revolution 2001), was deployed on PalmOS® handhelds and offered martial arts fighting gameplay similar to *BattleMail Kung-Fu*. Following the premise of the movie, players took on the role of Li's character Gabe Law, who traveled between alternate universes in order to track down and defeat the evil version of himself (no, I am not making this up). Instead of choosing attack and defense positions, players selected individual kung-fu moves, and therefore had to balance a move's damage power against its defensive coverage. As players won more challenges, their characters leveled-up, earning new, more powerful moves.

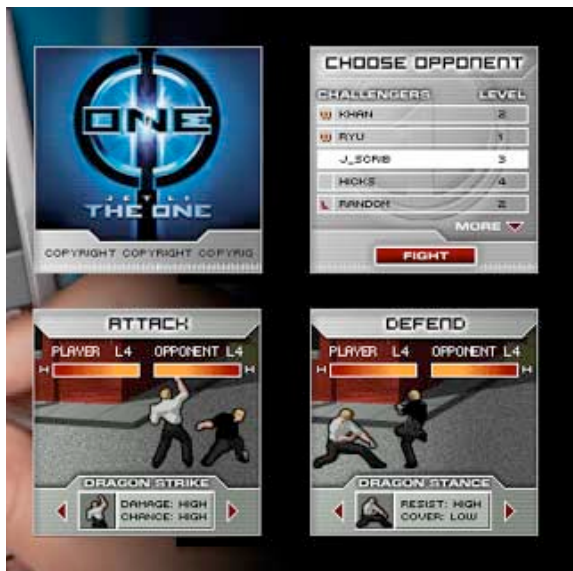


Figure 4 – Game screens from *The One* PalmOS-based asynchronous fighting game

Instead of sending challenges by email, *The One* transmitted them automatically when players HotSync'd their Palm device with a

desktop computer (HotSync® is Palm's registered trademark for the process of connecting the handheld device to a desktop computer to transfer files and data). Players could challenge friends via a companion website, or, if a player's handheld profile had an open challenge slot, a game server would automatically issue challenges from other players of roughly equivalent skill. Since Palm users inevitably sync their devices at least one or two times a day to update to-do lists and calendars, the game was guaranteed to evolve as long as the player left it installed on their handheld.

Unlike *BattleMail*, *The One* did not require *both* players to enter moves and then watch the results later. Instead, *The One* built a dynamic AI representation of the player, which it packaged and sent to opponents as part of a HotSync challenge. The game built the AI model for a player from his character's level and available moves, along with a normalization of the player's historical decisions in previous matches.

The One added a strategic tenor to the basic *BattleMail* concept, creating a much more meaningful persistent world. By imbuing the *BattleMail*-style high score list with *Asteroids*-style personal agency, players' achievement progressed from their adroidness, rather than the product of luck and quantity of emails sent. The game also proxied challenges between strangers, creating a broader play network that resembled the *Asteroids*' anonymous arcade more than *BattleMail*'s circle-of-friends.

Finally, *The One* made asynchronous play portable. *BattleMail* took advantage of email as a way to broker games without requiring special network communications tools. *The One* took advantage of Palm's built-in HotSync utility, allowing players to take challenges with them on the road, away from their home or office computer. The ruptures in *BattleMail*'s gameplay were hampered by the myriad obligations of the workday. But the breaks in gameplay in *The One* took advantage of such obligations; the game encouraged play

in the supermarket line, at the train platform, or on the toilet, and then took advantage of office productivity time to submit play results, update statistics, and draw new challenges. *The One* improved casual play by automating asynchronous challenges during natural game downtime.

Human Intervention

The One integrated asynchronous gameplay into the real lives of players, taking account of the rifts and breaks in work and playtime and providing design accommodations that allowed the game to enhance both. An adaptive, autonomous AI made this gameplay possible: players battled *representations* of their human counterparts. This design decision facilitated the game's smart use of player up- and down-time, but it also occluded a measure of human agency. While *Battle Mail* appeared to engender agency on the part of both players, the gameplay boiled down to a ro-sham-bo of chance maneuvers, a different, even more alienating perversion of real human action.

Earlier I argued that asynchrony in boardgames is largely a functional accident. As boardgames go, the popular game *Scrabble* (Brunot & Butts 1948) may offer the most interesting gaps between individual play, if not the most potentially maddening. I am an oft-maligned Scrabbler, mostly because I scan the board interminably, searching for an optimal move or obsessing over the 50 point bonus that comes when a player casts an entire seven-tile hand in one turn. Opponent turns in *Scrabble* often mean bathroom breaks, email checks, or even snacktime for the other players, who can only do so much preparation for their own hand while opponents ponder their own moves.

In early 2004, successful mobile phone game publisher Jamdat released a phone version of *Scrabble* (Imagine Engine 2004) that not only solved some of the problems inherent to the boardgame but also afforded more sophisticated human strategy than *The One*.

The mobile version of the game is simple enough. In its basic mode, the game offers a single-player mode that uses a common *Scrabble* AI algorithm. But the multiplayer mode merges *Battle Mail*-style PBeM play with *The One*'s approach to natural downtime. In head-to-head mode, players cast their move, then drop the phone in a pocket or purse and proceed with their usual routine.



Figure 5 - Screens from Imagine Engine / Jamdat's mobile phone rendition of the classic boardgame *Scrabble*.

The game takes advantage of an always-on mobile network to notify the opponent (or opponents — the game allows for up to ten simultaneous matches) of the players' moves. Because the game sets the expectation that each player will make moves on his or her own timeframe, the game circumvents the annoying disruption between moves inherent to the boardgame. And unlike *Battle Mail* and *The One*, mobile *Scrabble* allows human players complete control over their asynchronous moves, thus preserving the idiosyncrasies of live games — creative vocabularies, personalities, and other human traits difficult or impractical to accomplish through AI.

The One transmitted asynchronous moves via HotSync, a reliable strategy but one that required the player to return to a home or office computer to consummate the asynchronous experience. Thanks to mobile phone networks, mobile *Scrabble* does not require any player action to exchange moves. This technological advantage allows mobile *Scrabble* to correct the primary frustration of boardgame *Scrabble* without the need for extraordinary new technology. While Nokia N-

Gage and Nintendo DS are making expensive bets on synchronous multiplayer games as the future of mobile gaming, mobile *Scrabble* showed that mobile play need not rely on physical or temporal proximity. In this case, asynchronous play both advances mobile play and revitalizes a classic game not through radical gameplay or technology adoption, but by reconfiguring game downtime to accommodate human strategy.

The Real World in *Animal Crossing*

One of the achievements of asynchronous multiplay in *The One* was its careful integration of gameplay into the real lives of players. Most Palm handheld owners are professionals with busy schedules who might only find value in a game during the breaks in their workdays. While mobile devices and phones are more likely to offer Bluetooth or WiFi connectivity now than in 2001 when *The One* was released, such synchronous play-enabling technologies still ask players to spend time finding likely candidates for multiplayer games, in physical proximity to them and with similar time horizons for single game sessions. Such scenarios may sound plausible among close-knit early-adopters of game technology, but for casual players, multiplayer games need to accommodate the player's schedule, not vice-versa.



Figure 6 - A player goes fishing in *Animal Crossing*

Nintendo's GameCube title *Animal Crossing* offers a little of both worlds in a truly unique console-based asynchronous

multiplayer game. *Animal Crossing* is an "animal village simulator." Players move into a town filled with cartoonish animal characters, buy a house, then work, trade, and personalize their microenvironment. The game offers a series of innocuous, even mundane activities like bug catching, gardening, and wallpaper designing; like *The Sims* (Maxis 2000), *Animal Crossing's* primary metaphors are social interaction and household customization.

While the GameCube does support synchronous multiplay with up to four players, *Animal Crossing* only allows one player to play at a time. The game can store up to four player profiles in one shared town, and human players can interact with their friends or family members who play the game, but only indirectly, by leaving notes or gifts, completing tasks, or even planting flowers or trees.

The One took advantage of reasonably predictable breaks in player's out-of-game behavior, but *Animal Crossing* literally binds the game world to the real world, synchronizing its date and time to the player's GameCube clock. Time passes in real-time in *Animal Crossing* — it's dark at night, snows in the winter, and the animals go trick or treating on Halloween. A player who doesn't manage to play before 10:00pm will be disappointed to find that the town general store is closed for the night, so no shopping or trading until the morning. Since game time is linked to real time, a player can conceptualize the game as a small (or large) part of his daily life rather than a split out of it.

The binding of the real world to the game world also creates opportunities for families or friends to collaborate in a way that might be impossible in a synchronous multiplayer game. Since the whole family shares a single GameCube, the game's persistent state facilitates natural collaboration between family members with different schedules. For example, a child might find a fossil during the afternoon, then mail it to her father's character in the game. At bedtime, she

could let dad know that she needs to have it analyzed at the central museum so she can take it to the local gallery the next day. Likewise, if the father doesn't get around to playing until after the general store closes, he could send a note to his daughter, asking her to pick up an insect net during the day, so he can use it the following night after bedtime. As Kurt Squire and Henry Jenkins wrote of the game, "Families (of all types) live increasingly disjointed lives, but the whole family can play *Animal Crossing* even if they can rarely all sit down to dinner together. When families do gather, the game offers common points of reference and common projects to discuss" (Jenkins & Squire 2003). A character's personality and game options even draws on his or her play patterns. I was surprised to find my neighbors rejoining me for being such a night owl. Players who skip Sunday won't know about the weekly fresh market, although a player who discovers it can send a letter to their fellow human inhabitants — or just talk about their discovery around their real breakfast table.

Animal Crossing affords its players meaningful real-life social connections through casual asynchronous play. By representing the scarcities of real time, the game creates meaningful persistence that multiple players can share in- and outside of the game world.

Collaborative Virtual Outreach

Animal Crossing's integration of the real world into the game world does more than just frame the game; some objects or quests simply cannot be found unless someone plays at the right time. Players who miss special objects that appear only on a specific holiday might have to wait an entire year to get another chance.

These ligatures do incite player reflection on the passage of time, but since the game supports only four players total, the aggregate changes in the persistent world appear slowly, subtly over time. To get the

most out of *Animal Crossing*, players need the patience to persist.



Figure 7 - Screens from *The Howard Dean for Iowa Game*. The bottom left screenshot shows different levels of virtual support (shades of blue) based on aggregate, asynchronous player activity

As the number of participants in asynchronous multiplayer increases, the aggregate effects of persistence can become more quickly pronounced. *The Howard Dean for Iowa Game* (Persuasive Games 2003) was a casual web game designed by myself and Gonzalo Frasca and released in late 2003, during the height of Howard Dean's bid for the 2004 Democratic Presidential nomination. The game's goal was to teach current and potential constituents about the power of grassroots outreach. To play the game, players placed virtual supporters on a map of Iowa, playing one of three outreach minigames to set the effectiveness of their virtual supporters. Game time counted down to the date of the Iowa Caucus, the first major event in the formal race for U.S. President. When caucus time came, the game ended and players saw how many virtual supporters they had recruited.

The game functioned primarily as a single-player effort, but a little-discussed feature relied entirely on asynchronous multiplayer. After having set the effectiveness of a supporter through one of the minigames, that supporter worked nonstop, enacting "virtual outreach" to win over other virtual Iowans. In the main map screen, more effective virtual supporters worked more quickly in their region; a circular gauge showed

their progress. When the gauge filled, a new supporter spawned, ready for the player to place for additional outreach. Multiple supporters in the same region would work together, speeding up the outreach process.

Behind the scenes, each game dynamically updated a central server with information about how many virtual supporters the current player recruited in each of the regions on the map. Each time a new player loaded a game, a software routine loaded the current levels of virtual support penetration in each region. Areas with higher support turned increasingly darker shades of blue on the map.

The algorithm for receptivity to virtual supporters took these regional support levels as their primary input. A numeric indicator in the game also displayed the total number of supporters all players had recruited that day. Each night the game reset, and the map appeared freshly white for its first player. A player who loaded the game late at night would benefit from the aggregate effort of all of his predecessors.

Aggregating all players' virtual outreach efforts into every game allowed the game to enact its own rhetoric: each and every supporter makes a material difference for the campaign. While *Animal Crossing* persists arbitrary, quotidian features of the environment (trees growing, seasons changing), *The Howard Dean for Iowa Game* persists only its most salient feature: supporter growth. Thousands of players could interact with the game in a single day, on their own schedules, just as thousands of supporters could interact with their local communities. The game took advantage of breaks between plays to show how individual effort could become communal effort, one of the rhetorical goals of the game.

Unfortunately, the game didn't openly clarify its asynchronous multiplayer features, and many players might never have intuited the game's aggregated representations of outreach. This was a major failing in the

game's design, and a useful lesson. In a paper presented some months after the release of the game, my codesigner Gonzalo Frasca argued that political games must stand "against gameplay," for gameplay obscures the rules or makes them invisible, removing the player's critical perspective (Frasca 2004). Such a problem afflicted *The Howard Dean for Iowa Game*.

In a more recent political game, I tried to apply this lesson. *Activism: The Public Policy Game* (Persuasive Games 2004) is an attempt at a game-based public policy polling tool. Players allocate activists between six minigames representing as many US domestic and foreign policy issues (the economy, education, corporate policy, security, the military, and internationalism). Players then allocated activists between the issues and played all the games simultaneously. The gameplay changed based on the relative importance of one issue over another. Players could change these settings continuously during the game.



Figure 8 - *Activism: The Public Policy Game*. The colored bars show a player's allocations of activists, and thereby the relative importance of each policy issue.

To play, each player had to submit basic demographic information. The game stored this information anonymously in a database. But rather than hold this information ransom for behind-the-scenes analysis, the game allowed players to load other players' public policy plans by specifying one or more demographic criteria to load (location, age, and gender). In this mode, players cannot change the allocation of activists between games; they

are forced to play the aggregate ideology of the demographic they choose.

In *Activism*, asynchronous multiplay allows every player to contribute to a pool of data that other players can enact in the game. By giving players explicit access to the aggregate performances of other players in the game, *Activism* makes its asynchronous features explicit. Whereas the communal effort in *Howard Dean for Iowa* went unspoken, *Activism* uses communal effort to give players a window (albeit an experimental, less-than-scientific one) into other citizen's voices on matters public policy.

FUTURES FOR CASUAL MULTIPLAYER EXPERIENCE

For better or worse, graphical (and especially 3D), synchronous persistent world games have taken over the MMOG category. And while these complex "virtual worlds," as they are often called, have yielded significant play value and theoretical reward (e.g. Castronova 2001, Jacobsson & Taylor 2003), games like *EverQuest* and *Ultima Online* require a significant investment of player time and money. Recently, many critics have heralded *City of Heroes* (NCSoft 2004) as a "casual MMORPG" (Broach 2004, Wrentmore 2004), but even that game continues interminably, demanding tens or even hundreds of hours of total play, even if in 30-minute increments.

Synchronous multiplayer games are here to stay, and they should stay. But asynchronous multiplayer games may offer new inroads into a true market of casual MMOG's. Sequential play affords players greater freedom to choose when to play and how to integrate play into their daily lives, as in the case of *Diplomacy PMB* and *The One*. And such freedom need not compromise the richness of an always-running persistent world, as in the case of *Animal Crossing*.

Sequential play naturally constrains play time by embedding incentives to stop playing into the game itself. You could play *Asteroids* around the clock, but the value of

having your initials on the high score list comes primarily from allowing others to challenge your score.

Persistent state in asynchronous multiplayer games offers much broader forms of implementation than synchronous multiplayer games, which primarily focus on intricate recreations of entire virtual worlds rather than focused recreations of the most salient aspects of representational worlds, as in *The Howard Dean for Iowa Game*.

Asynchronous play allows the multiplayer aspects of a game to vary from player to player and game to game. *Animal Crossing* can certainly be played as a single-player game, and the multiplayer features of *The Howard Dean for Iowa Game* serve only to clarify and motivate individual single-player game sessions.

Just scratching the surface of possible examples, in this article I covered classic board games, PC games, handheld games, mobile games, console games, and web games. Asynchronous multiplay extends the possibility space of multiplayer games to include many more genres and implementations of games, suggesting a broader pool of player experiences and sensibilities. Such opportunities suggest new forms of multiplayer games as well as new horizons for virtual world MMOG's, which might benefit from casual, asynchronous extensions of their larger synchronous gameplay.

All that said, what is interesting about the idea of Casual MMOG's in the first place? Above all, MMOG's are fun for players and valuable for researchers because they experiment with social and group dynamics. Virtual worlds are opening our eyes to new horizons in economics (Castronova 2001, Ondrejka 2004), property (Dibbell 2003, Hunter & Lastowka forthcoming, Taylor 2003), social relations (Taylor 2004), learning (Steinkuehler 2004), tourism (Book 2003), and advertising (Book 2004). But such efforts focus almost entirely on how MMOG's allow

or require players to exit the real world in favor of a virtual one. Virtual world researcher and creator Cory Ondrejka has suggested that digital worlds need strong material ties to the real world (Ondrejka 2004). But many proponents of virtual worlds still focus primarily on the expansion of the virtual, rather than an increased connectedness of intra- and extra-game player attitudes. Interestingly, the groundbreaking MMOG research mentioned above (economics, property, advertising, etc) deals precisely with the asynchronous aspects of synchronous MMOGs; they ask the basic question, *what happens in the gaps between gameplay and real life?*

As the market for multiplayer experiences expands, the likelihood to lure exponentially greater numbers of players into this time vortex remains unlikely. Cannibalism between MMOG's is already a problem; the material demands of the real world simply preclude simultaneous participation in multiple, high-maintenance virtual worlds. Asynchronous multiplay offers a way to connect people in multiplayer spaces, while affording them greater flexibility in and reflection on that participation in their daily lives. Synchronous play may facilitate technological innovation, but asynchronous play will underwrite human innovation, making the latter the real future of multiplayer experience.

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