

Distributed Memories: CompuServe's Gamer's Forum and the Halcyon Days of the Adventure Game Toolkit

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A few years ago, I took my children, then young teenagers, to the Strong Museum of Play in Rochester, New York, a wonderland of interactive exhibits and games. In one room, dozens of brightly lit and flashing Pinball Machines invited us to play our fill, but my son soon wandered away. I found him in an unflashy corner of the next room over, sitting in front of a boxy computer monitor, playing a late 1990s version of the largely text-based Oregon Trail. He sat at that computer far longer than the time he spent on anything else in the whole museum, which perplexed me. It is a game that he had many times played as a child, both at school and at home. The museum seemed to have triggered in him an experience of nostalgic immersion, as can happen when we read a book we associate with an earlier period in our lives. The emotions don't necessarily arise from a sentimental attachment to the trigger itself (Oregon Trail was never his favorite game), so what was going on?

Virtual worlds emerge from (and occur inside of) what gamers prosaically refer to as Real Life (RL). Affective attachments to virtual communities or game worlds are never fully disconnected from RL professional, personal, cultural, social, and sociotechnical experiences, pleasures, and anxieties. When my son re-entered the virtual world of Oregon Trail, it wasn't just that fictional/digital world he was revisiting; he had also been connected with his past self, who he was in our family, in school, and in his own, younger, game-playing skin. Maybe he was recalling past mishaps and errors and trying to evade them with benefit of hindsight and his new, intellectually mature gamer's vantage, but maybe he was just having fun and the rest was unconscious. Whatever the case, I'm glad I didn't wreck his flow experience just because I was curious about his choice.

In the research report following the multi-institution study, "Preserving Virtual Worlds," Jerome McDonough and his colleagues at the University of Illinois, Maryland Institute of Technology, Rochester Institute of Technology and Stanford University, made the argument that what we must preserve when we set out to collect, archive, and curate games, is not just the software and the hardware necessary to play them, but the *worlds* that they create. They understand virtual game worlds to be simultaneously artifacts, commodities, and communities. As such, the problem of preservation necessitates attention to sociotechnical, legal, and relational issues simultaneously (McDonough 5.) As artifacts, for example, the issue of hardware and software obsolescence makes it difficult to ensure that collected games can continue to be played. As commodities, games constitute intellectual property protected by copyright law, though it can be difficult to determine ownership in order to acquire permission; the Digital Millennium Copyright Act prohibits attempts to circumvent the anti-copying measures that games instituted in their original form, as well as the development of emulation technology (6). How does one preserve and curate a game that is one is not legally entitled to play? Legal and illegal emulations, as well as ROM hacking (editing) produce new game worlds which may be close copies, distortions, parodies or completely unique works that rest upon the framework of an old one. Some employ intellectual property in ways that

fall into areas of fair use, but some don't; which such versions of any game should be collected, preserved, and curated? Copying that can't be done legally frequently proceeds illegally, and not all such activities will end up in court (57). Institutional archives have to step carefully when they enter the fray.

Preserving the third aspect of virtual worlds, the community part, may appear less problematic. Generations of ethnographic work has demonstrated how relationally rich virtual worlds can be (see for example, Taylor 2006, Boellsdorff et al 2012, Pellicone & Ahn 2020). Loss is inevitable; game worlds do die—one of the sections in the Virtual Worlds report is called “Virtual Worlds that Died During the Grant.” Once a virtual world is gone, studies of its artifacts, commodities, and communities necessarily become *forensic* (Kirschenbaum 2008). Eschewing the crime scene metaphor, digital artifacts can be understood as objects turned up archeological sites; they need to be studied in relationship to the stratum in which they were found (see Huhtamo and Parikka 2019). Context is needed to understand what the lived experience of a lost world once was. I think about such tasks as restorative – first of provenance and then of meaning.

I will soon be launching a restorative project related to the virtual world of the pre-internet era BBS, CompuServe (CIS). CIS Gamer's Forum was a virtual community within that virtual world. In the late 1980s and early 1990s, writers and players of interactive fiction, text-based and other types of games, and to a lesser extent experimental and electronic literatures, all paid by the minute for the privilege of spending time together in CIS Gamer's forum. CIS did little, if any, archiving of its forums in the period before 1997 when it was sold to America Online (AOL), its chief market rival, which was experienced as a bitter betrayal by some of its users. The user-generated digital content of the CIS forums during the BBS era, the collective memories of those communities, have been lost in time, like tears in rain, one might be tempted to say. But--not completely.

In pre-internet dial-up era, users had to pay twice – first for the cost of the phone call, and then in a fee to the BBS service for time spent online. It cost a significant amount of money to “hang out” on CompuServe, and users found a variety of strategies to reduce the cost. Chief among these was the tactic of fetching online content and reading it offline. Software add-on product emerged to automate the retrieval of new mail and messages. This can be understood as a kind of sociotechnical drift. The most popular of such applications was “The Access Program for the CompuServe Information Service,” known as TapCIS. Written in Borland's Turbo Pascal by Howard Banner, TapCIS allowed CIS users not only to quickly download content, but also to peruse the indexes of forum libraries and the transcripts of private chats and public conferences offline. TapCIS was the user-experience tool of choice of CompuServe system operators (SysOps), both paid staff and volunteer moderators, who received “free flags” that allowed them to spend long periods of time online without cost. Surviving the takeover by AOL, TapCIS lingered, almost unbelievably long, as a beloved interface until 2004. Its farewell announcement is sweet and was clearly penned with tears: “We all knew, long ago, when the online world started moving away from proprietary systems to the web, that our TapCIS days were numbered. Nobody then ever could have dreamed that we would have lasted even as long as we have. It's been a wonderful, wacky, marvelous run and we have loved every minute of it.”¹

The use of apps like TapCIS and other time-saving strategies users employed to defy the fiduciary realities of virtual worlds-as-commodity provided a serendipitous benefit. They inadvertently produced a distributed archive of digital artifacts. They are significantly endangered, stored in thousands of wet basements, in boxes of sorted and unsorted floppy disks or, somewhat more securely but just as obscurely, on the backup tapes and CDs upon which the contents of floppy disks were copied. If such digital artifacts can be found and collected, they could restore much of the digital architecture of CIS Gamer's Forum.

The failure of CompuServe to archive its content was not only sad for its users, but it was also self-defeating in a historical sense. In his blog dedicated to the pre-internet era, *The Digital Antiquarian*, Jimmy Maher, points out that CompuServe remains largely unrecognized as the influence it was in the development of the Internet: "In histories of these things the focus always goes to the early ARPANET, the invention of TCP/IP, etc. Which is important — incredibly important — but a huge part of contemporary online culture can't actually be traced back to the ARPANET and early Internet. It was CompuServe that invented and/or popularized real-time chat, e-commerce, online travel reservations, online newspapers, online encyclopedias, much of online gaming, etc., etc. Few people seem to remember that."²

My goal in restoring CIS Gamer's Forum is not to restore CIS to its rightful place in history (I'm still mad about the AOL thing); I'm interested in preserving the digital artifacts of the post-Infocom, pre-*Inform 7* era of interactive fiction, the period in which *The Adventure Game Toolkit* (AGT) was at center stage. Written in Pascal by David Malmberg, AGT was inspired by, and a significant revision and extension of, the *Generic Adventure Game System* (GAGS), created by Mark J. Welch in the mid 1980s. I wrote my first interactive fiction in GAGS, which was installed on a used computer that I bought in Boulder, Colorado in the late 1980s, a PC's Unlimited 386 XT (which chugged along at a blisteringly fast 6 MHz, its "turbo-mode which could be turned off at need)." I used GAGS so continuously that honesty compelled me to register it. I sent off the suggested fee to Welch and received back a letter from Malmberg, with disks of AGT software, documentation, and games. I was blown away by what I could create using these new tools.

During the early 1990s as I worked as a children's theater director and artist-in-residence in various Santa Cruz, California public schools, staging students' original plays, and teaching them to write text adventures using AGT. The development system requires no coding, so it was a wonderful tool to teach the kids to write interactive stories. AGT does not require any coding per se, though it teaches logical, procedural, and ontological thinking. Designers create three text files which the AGT compiler processes into a game or other type of interactive story. The first, a .DAT file, contains a long list of rooms, objects, and creatures (including humans), indexed with a number. The location of an object at start of play, for example, will reference the number of a particular room. Attributes of these game items (like what room is to the north, or whether an object is edible) are also recorded in this file. The second, a .MSG file, is a long list of texts, also indexed with a number, including everything that might be printed to the screen in response to player action or error. The correspondence between the .DAT entries and the .MSG entries was always easy for the students to grasp. The description of an object contained in the .DAT file is referenced by the number of the appropriate text in the .MSG file. They are essentially two linked

databases. More challenging for kids was the .CMD file, in which the initial values of all variables used in the game (both number and boolean variables) are set, and additional verbs (the commands that the player can use during play) are defined. The rest of the .CMD file is given over to what Malmberg called “meta-commands.” These define what will happen, depending on what a player types under a variety of conditions (what room the player is in, what the player is carrying, the value of certain variables in various combinations, whether an item is edible and so on).

The system is simple and intuitive, and no programming experience or perceived aptitude or cultural capital or computer savvy was necessary to make interactive stories using AGT for my young students. Likely for this reason, in part, during the late eighties and early nineties it was the system of choice for non-programmers wanting to create parser-based interactive stories. Welch held an interactive fiction competition in 1986, for games written in GAGS. After his acquisition and revision of GAGS, Malmberg re-launched the competition in 1989, as an AGT competition. One of my games, *CosmoServe: An Adventure Game for the BBS-Enslaved*, won the 1991 AGT contest. It was both a parody and a simulation of CIS. The work’s player character is a hapless programmer named A.J. Wright (whose program written in “TurborP” Pascal, (a software product created by “Orfland,” a nod to Borland’s Turbo Pascal) is not compiling. This is a problem since delivery is expected the next day.

The scenes that take place in the R.J. Wright’s house read and play like traditional text adventures. The player has to GO SOUTH, OPEN FRIDGE, PUT TV DINNER IN MICROWAVE and so on. But once the player turns on the computer, the screen is taken over by what looks like a DOS environment and only DOS commands are recognized by the game. There are a couple of programs that (appear to) run from DOS, including a Pascal compiler that crashes and throws an error message, a word processing program loosely based on WordStar, and a working draft of a GAGS game being developed by the player character, a game inside the game. The player will need to evade such distractions, however, and log on to a simulated CompuServe BBS, called CosmoServe, via a DOS dial-up program, in order to really get started with the game.

Once the player logs on, CosmoServe looks much as CIS did in the early 1990s, with forums, libraries, message boards, live conferences. The player must download a patch for the misbehaving Pascal to finish their program. This won’t be so easy, since every download contains a virus, and the Orfland rep will deny that the problem is on their end. Meanwhile the player’s attention wanders due to rumors of a ghost in the machine. The majority of the game is played by doing the ordinary tasks of the old CompuServe virtual world –attempting to download files from forum libraries without transmission errors, being spammed by strangers, resisting invitations for “hot” chat and trying not to run up too high of a credit card bill trying to your programming job done.

The illusion that players logged into CosmoServe were somehow actually online was often reported to me. I used the computer speaker to simulate the classic modem noise, and I incorporated the familiar system beeps. Sometimes people who registered the game would tell me that when a virus attacked their simulated computer and they ran CHKDSK in the simulated DOS environment and it reported file corruption, they felt heart-pounding fear that my game had destroyed their actual computer. Player distress was never my intent, but I am pleased, in retrospect. CosmoServe is a simulacrum, a kind of preservation, that allows its

players to glimpse a world that is gone. I'm not referring only to the online experience of CIS, but the RL world of dial up modems, money worries over spending too much time online, and the fear of downloading viruses, as well as the silly and stereotypical, but not completely inaccurate experiences of pizza-eating, sleep-deprived programmers during the era when DOS was boss and Borland ruled the programming world. I certainly never anticipated what would thirty years on be the hardest puzzle in the game – how to change a directory at a DOS prompt.

Maher has noted, regarding AGT and other early games in the post-Infocom world, that have been derided as “hobbyist” games, that “to a much greater degree than the games of Infocom and other commercial publishers, AGT games feel like particularly *personal* expressions of their creators. In later years, jokes and no small amount of scoffing would be attached to Everyone’s First Game, which inevitably begins in said person’s bedroom and proceeds to play out in an environment interesting and meaningful to absolutely no one beyond the author’s friends and family. Yet the same tendency that spawns that phenomenon constitutes, I think, an important part of the text adventure’s ongoing fascination.”³ The fact that the first impulse of someone being given the ability to create an interactive narrative is to simulate their own lives is intriguing to me. It is true that every semester a hefty percentage of my students, upon being given the power to create any narrative world they can think of, do painstakingly recreate their path from their own bed to their bathroom.

I don’t think that’s what’s going on in the early AGT games, however.. Consider two winners of the AGT contest. *A Dudley Dilemma*, which told a story about a PhD student at Harvard was written by Lane Barrow, when he was a PhD student at Harvard. *Son of Stagefright*, a story set in a community theater, was written by Mike McCauley who was well acquainted with that small culture. Rather than being a sign of the narrative weakness of early games, Maher sees something else in those autobiographic-esque works: “When we look back today to the AGT games of decades ago, they take on an additional layer of interest as historical documents in their own right of the times and places that spawned them.”⁴

I agree with Maher that what is valuable about these early AGT games (and the half-written beginnings of games that early AGT users also have buried in their basements) that I will invite them to unearth, is that many of these early games *recorded the RL context in which they were writing*. CosmoServe was intentionally not game-like in many ways because I was trying to point out that CIS users “played it” *like a game*. Just as *A Dudley Dilemma* allows players to experience Harvard in the late eighties and early nineties, and *Son of Stagefright* lets players glimpse community theater in that era, CosmoServe allows players to experience what it felt like to dial up and spend time in CIS, within a decent degree of accuracy, given the technical limits of AGT.

A certain amount of trolling of AGT happened, much of it coming from partisans of its competitors, centered on the limitations of the system, which was not meant to be a programming language. When CosmoServe came out, a rumor went ‘round that I had hacked AGT to accomplish it. It is true that I tweaked the Pascal source code and recompiled it, but most of what I did was to accommodate the size of my games, which were

Infocom length. I penned a defense of AGT that ran in *XYZZY*, the interactive fiction rag of the day, in which I attributed the perceived limitations to developer laziness. I largely stand by that defense – which arises from my love of constrained art forms. Nobody hates on a haiku because they only have 17 syllables. When I teach interactive narrative design, constraint of various kinds is presented as an essential source of inspiration.

The year after I wrote *CosmoServe* I organized the seven-person team of CIS Gamer's Forum members who together wrote the AGT game, *Shades of Gray: An Adventure in Black and White*, (SOGGY) which won the 1992 AGT competition in a special co-authored category. It was a game about moral ambiguity, and I can't say more without spoilers. I mention it here because both of my games are surviving artifacts of the creative and generative virtual world of the CIS Gamer's Forum. The SOGGY team was given a free flag to use when we were working on the game. This was an unprecedented privilege in the forum, a decision made by some higher CIS powers, which engendered some resentment, but which made the endeavor possible.

In 1993 and 1994 I served as a judge for those last two years of the AGT competition, which by then had begun to accept games written in platforms other than AGT, like Text Adventure Development System (TADS) written by Michael J. Roberts, which had its own fiercely loyal community, and is still in active use today.

In the mid-90s, Malmberg announced that he would no longer be maintaining AGT. Because it didn't grow with the needs of its users, it was left behind by other tools which were responsive to the community. I don't blame Malmberg for this. His company *Softworks*, which he created to support AGT was never a commercial success, and the work of supporting it was largely solo and thankless. For years I felt guilty that I didn't take responsibility for AGT at that point, since I was more publicly associated with it than anyone but Malmberg. But the RL world was changing around AGT. In 1995 the charismatic CEO of Borland, Philippe Kahn resigned, and missteps in its choices shifted it out of the spotlight, and in 1997 CIS sold itself to AOL. The RL and virtual world gestalt that *CosmoServe* had simulated was gone.

Of course CIS Gamers Forum was far from being the only interactive narrative community of the era. If my IF world was disappearing around me, others flowed together and coalesced around the Interactive Fiction Competition (IFCOMP). It began in 1995, picking up the torch as the AGT competition let it fall. This was the time that Inform 6, a language written by Graham Nelson, began its rise. In its current incarnation as Inform 7, is the most important development language in the parser-based interactive fiction world, and IFCOMP is the longest running interactive narrative design competition. The competition and the IFDB, an archive of interactive fiction created and maintained by TADS creator Michael Roberts, are both now supported by volunteers in the non-profit Interactive Fiction Technology Foundation (IFTF).

I write IF and other interactive narratives in Inform 7 now, having learned it by translating *CosmoServe* into its natural language code. Through that process I came to understand that the narrative of the game exists separately from its coded instructions. It is neither/both an AGT game and an Inform game. But it remains tied to the history of AGT as a creative

agent in the BBS era, to Borland before its fall, and to the RL world from which CIS Gamer's Forum emerged.

That virtual world does still breathe or at least appears to breathe through CosmoServe. But simulation is not really preservation. By calling for a gathering of the distributed memories of Gamer's Forum (including, particularly, people's unfinished AGT games) I hope to crowdsource the collecting of the digital artifacts of those entwined virtual worlds, now lost. I went hunting for my TapCIS files which I knew had to be in my cache of floppy disks (that I could somehow never bring myself throw away even after I no longer had a machine that could access them). Such is the liminal state in which CIS Gamer's Forum and AGT artifacts everywhere exist. I discovered that I possess digital records holding the memories of my conversations with people who knew me on Gamer's Forum as Teela Brown, the luckiest woman in the world. Heh. I don't know most of their RL names either. I have found transcripts of private chats and public conferences, giving testimony to our experiences as readers and writers of interactive fiction, of gamers and game designers in that brief BBS era. Some of what I have found speaks to the gaming and game-writing lives of women in what was a conspicuously male-dominated game world. Treasures. I thought that CIS Gamer's Forum was lost when CIS failed to preserve its digital history. It turns out that it miraculously survives, in bits of digital text, distributed and hidden across thousands of RL basements, including my own.

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¹ *"TapcisForum - CS Farewell"*. tapcis.com. Archived from [the original](#) on July 8, 2019. Retrieved May 8th, 2020.

² Maher made this comment during a lengthy interview that he conducted with me regarding CosmoServe and the history of CIS Gamer's Forum. It is recorded on his blog: <https://www.filfre.net/tag/cosmoserve/>. For Maher's discussion of the significance of CIS, see <https://www.filfre.net/2017/10/a-net-before-the-web-part-1-the-establishment-man-and-the-magnificent-rogue/>; For a discussion of AGT: <https://www.filfre.net/2016/08/agt/>; For a

discussion of CosmoServe, see The Text Adventures of 1991: <https://www.filfre.net/2017/12/the-text-adventures-of-1991/>; and for Shades of Gray (with spoilers): <https://www.filfre.net/2018/09/shades-of-gray/> all accessed 5/8/2021.
³<https://www.filfre.net/tag/son-of-stagefright/>, accessed 5/8/2021.

⁴ Ibid.