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What Were Bulletin Board Systems? Looking Back At Pre-Internet Online Communication in Türkiye

Duyuru Panosu Sistemleri Neydi?
Türkiye'de İnternet Öncesi Çevrimiçi İletişime Yeniden Bakmak

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ABSTRACT

As an online communication technology predating the Internet, Bulletin Board Systems (BBSs) are considered to be precursors of modern-day social media. Despite being a popular technology of its era both in Türkiye and abroad, BBS technologies tend to be entirely overlooked in historical accounts of online communication. This article begins with an overview on the history of BBS technologies both in Türkiye and abroad. It then introduces the HitNet archive, currently the only publicly accessible Turkish language BBS archive in the world. Using applied content analysis, the article then explores whether contents of the HitNet archive align with the findings of international academic literature on global BBS usage. The findings of paint a mixed picture wherein certain aspects of the HiTNet archive present a mixed picture that both affirms as well as contradicts academic literature. On one hand there are elements affirming the hyperlocal nature of BBS networks (message contents, unique topics for each server). On the other, there are mutual elements (humour) that complicate the framing of Turkish BBSs as hyperlocal entities. Accordingly one can tentatively argue that HiTNet users, while bound to their local geographical context, belonged to a relatively homogenous demographic (male university students and computing enthusiasts). Unfortunately, the findings of this article are not generalizable for all HiTNet users due to very limited nature of the sample studied. Furthermore, the lack of accessible archives means that it is increasingly difficult to access BBS content from the period dating from 1990-1997. The article concludes by stressing that archival research needs to be urgently undertaken in Türkiye to catalog what remains from the BBS era. If no action is taken, there is a risk of losing access to all online communication between 1990 and 1997.

Keywords: Bulletin Board Systems, Online Communication, History of Technology, Digital Cultural Heritage

ÖZ

İnternetten önce gelen bir çevrimiçi iletişim teknolojisi olan Duyuru Panosu Sistemleri (DPS'ler), günümüz sosyal medyasının öncüleri olarak kabul edilmektedir. DPS teknolojileri, hem Türkiye'de hem de yurtdışında döneminin popüler iletişim teknolojilerinden biri olmasına rağmen, çevrimiçi iletişimin tarihsel anlatılarında tamamen göz ardı edilmektedir. Bu makale, BBS teknolojilerinin hem Türkiye'deki hem de yurtdışındaki tarihine genel bir bakışla başlamaktadır. Ardından, şu anda dünyada kamuya açık tek Türkçe DPS arşivi olan HiTNet arşivi tanıtmaktadır. Makale daha sonra uygulamalı içerik analizi kullanarak HiTNet arşivinin içeriğinin küresel DPS kullanımına ilişkin uluslararası akademik literatürün bulgularıyla uyumlu olup olmadığını araştırmaktadır. Elde edilen bulgular, HiTNet arşivinin belirli yönlerinin akademik literatürü hem doğrulayan hem de çelişen karışık bir tablo ortaya koyduğunu göstermektedir. Bir yandan DPS ağlarının hiper-yerel doğasını doğrulayan unsurlar (mesaj içerikleri, her sunucuya özel konu kategorileri) vardır. Öte yandan, Türk DPS'lerinin hiper-yerel varlıklar olarak çerçevelenmesini zorlaştıran unsurlar da (mizah) bulunmaktadır. Buna göre, HiTNet kullanıcılarının, yerel coğrafi bağlamlarına bağlı olmakla birlikte, nispeten homojen bir demografiye (erkek üniversite öğrencileri ve bilgisayar meraklıları) ait oldukları iddia edilebilir. Ne yazık ki, bu makalenin bulguları, incelenen örneklemin sınırlı doğası nedeniyle tüm HiTNet kullanıcıları için genellenebilir değildir. Ayrıca, erişilebilir arşivlerin eksikliği, 1990-1997 yılları arasındaki döneme ait BBS içeriğine erişimin giderek zorlaştığı anlamına gelmektedir. Makale, DPS döneminden geriye kalanları kataloglamak için Türkiye'de acilen arşiv araştırması yapılması gerektiğini vurgulayarak sona ermektedir. Önlem alınmadığı takdirde, 1990-1997 yılları arasındaki tüm çevrimiçi iletişime erişimi kaybetme riski bulunmaktadır.

Anahtar Kelimeler: Duyuru Panosu Sistemleri, Çevrimiçi İletişim, Teknoloji Tarihi, Dijital Kültürel Miras.

Introduction

Personal computers began to enter into households in Europe during the 1980s and early 1990s, giving birth to novel cultural practices such as gaming and home programming (Wade, 2016). Moreover, the popularization of home computers created new possibilities to make money, not just in the realms of hardware and software but also in industries such as publishing (user guides, magazines) or maintenance services (Sumner 2012). By creating a new public realm for computer usage, this transformation contributed to the emergence of distinct computing (sub)cultures (Alberts and Oldenziel, 2014).

Looking back at the early cultures of personal computer users, there are many topics that remain insufficiently explored in international academic research. Bulletin Board Systems (BBS) and their contribution to early computing cultures are one such understudied topic. BBSs were perhaps the first and most primitive civilian networking technology that allowed computer users to communicate with one another. They were localized networks of computers connected through basic modem technologies and standard telephone lines. Using BBSs, personal computer users were to engage in various tasks such uploading and downloading software, reading news and bulletins, and engaging in message exchanges with fellow users, both through public message boards and occasionally via direct chat interactions. Consequently, BBSs were a networking technology predating the Internet and as such, can be thought of as early precursors to modern-day social media platforms.

Despite their widespread usage both within Türkiye and internationally, BBS technologies have been consistently overlooked in historical narratives surrounding online communication. For example, in Janet Abbate's seminal work "Inventing the Internet" (2000), BBSs do not receive any mention whatsoever. In Erkan Saka's compiled volume on Internet History (2019), BBS technologies are briefly alluded to in just a single chapter that focuses on early Internet activism. In the chapter, BBSs are described as primitive technological forerunners to the Internet that were unable to facilitate any kind of digital activism (Şener and Erdikmen, 2019). Instead, Şener and Erdikmen depict BBSs primarily as online platforms facilitating the distribution of pirated software. While this characterization holds some truth, especially for BBSs catering to demosceners and crackers – two computing subcultures active in Türkiye during the 1990s – piracy is only one part of the BBS story. Furthermore, as the discoveries presented in this article demonstrate, BBS communities, both on a local and national scale, did engage in activities other than piracy.

Before proceeding any further, it is important to note that BBS technologies arrived in Türkiye almost a decade after they began to be used in North America and Western Europe (Furman, 2017). In fact, BBS technologies began to be widely used right around the time when the Internet was arriving in Türkiye. Consequently, the “golden age” of BBSs in Türkiye was quite brief (1990-1997) and took place during a period when BBS usage was already on the decline globally. This might partly account for the swift decline and disappearance of BBSs in Türkiye. As the Internet offered a better and more affordable alternative for online communication, computer users began to abandon BBSs technologies and switch to using the Internet. Realizing that the number of users were dwindling, BBS operators began to transform themselves into Internet Service Providers (ISPs). As such, it is not perhaps unsurprising that many of Türkiye's inaugural ISPs such as DorukNet initially operated as BBSs.

Despite their short existence from 1990 until 1997, this paper argues that BBSs were able to facilitate the formation of the first online communities in Türkiye, capturing the imagination of students, computer enthusiasts and others. Yet not much remains from this period, with the swift transition to the Internet causing BBS technologies to rapidly disappear, often without leaving any digital archives or material remains. During this transition, the majority of Turkish BBSs were unplugged and left

to languish. Some BBSs were turned into mail lists while others became forums or homepages. Yet none of these changes were able to resuscitate the zeitgeist of the 1990s. Nowadays local BBS archives are either inaccessible or have succumbed to the relentless march of technological progress. This makes the study of BBSs in Türkiye challenging for those interested in the history of communication technologies. Remaining archives are at risk of vanishing due to a lack of interest and resources.

The scarcity of archival content is exacerbated by Türkiye's position on the periphery of transnational BBS networks like PeaceNet or FidoNet. The late arrival of BBSs to Türkiye makes it quite difficult to find anything relevant about Turkish BBS users in international archives such as Textfiles. As a result, whatever archival data of Turkish BBSs remaining from this era is a product of private conservation efforts. In fact, as of 2023, the HiTNet archive remains as the only publicly accessible archive catering to researchers in Türkiye. The HiTNet archive consists of message files from three different BBS servers dating from the period between 1993 and 1996.

Using the publicly available HiTNet archive, this article takes a closer look at the kinds of content featured on Turkish BBSs. In doing so, the article tries to document the different topics discussed on HiTNet BBS servers. The initial section of the article offers a concise overview of the global and Turkish history of BBS networks. Subsequently, leveraging a selection from the HiTNet archive, the second segment of the article scrutinizes the topics and discussions prevalent within BBS networks.

Literature Review

As a communications technology, Bulletin Board Systems (BBSs) were localized networks of computers interconnected through basic modem technologies and standard telephone lines. In contrast to the militaristic origins of the Internet (Hafner and Lyon, 2006), BBS networking technologies were entirely civilian in their origin. They were also the first communication technology that truly allowed users to communicate with one another on a global scale. Setting up a BBS required three hardware components: a computer, a modem, and a telephone connection. Functioning as a monopoly, the American Telephone and Telegraph Company (AT&T) provided both intercity as well as international telephone services to North American users from 1877 until 1982. The world's first commercially available modem, Bell 103, was introduced by Bell Systems in 1963. This was the first device capable of converting computer-generated electrical signals into modulated phone line transmissions and subsequently decoding them into data at the receiving end. The year 1974 saw the introduction of the Altair 8800, marking the debut of commercially accessible microcomputers.

By 1977, internal modems for computers became commercially viable, and during the same period, Ward Christensen, an IBM employee, developed XMODEM – a program and protocol facilitating file transfers via modems. On February 16, 1978, Christensen, alongside his partner Randy Suess, successfully launched the first BBS in history, CBBS. Following this achievement, they authored an article for Byte magazine, introducing their innovation and describing the necessary software needed to set up a BBS operation. Their article catalyzed the proliferation of the BBS phenomenon across North America, ushering in an era where dial-up BBSs reigned as the primary conduit for computer users to communicate with one another for nearly two decades.

Bulletin Board Systems as Pre-Internet Social Media

In terms of technical infrastructure, maintaining BBSs was relatively uncomplicated. Typically, a central mainframe computer served as the nucleus of the local network, acting as the server to which other computers connected via their modems. Through this modem link, computers gained access to information and files stored on the main server. Oversight of the mainframe server computer was the responsibility of a human system operator, commonly known as a "sysop." During the early years of BBS, communications

were asynchronous as only one user at a time could connect to the server computer. Users had to take turns accessing the mainframe computer and typically had limited connection times. This technical limitation would eventually be remedied in a variety of different ways, including the connection of multiple telephone lines with the mainframe server.

The other technological issue that confounded BBS usage in these early years was the sluggish speeds of commercially available modems. Initial modem connection rates were around 300 Baud, roughly akin to reading speed or approximately 30 characters per second. Slow connection speeds caused data transfers to be prolonged and technically difficult. To help with this process, terminal programs designed with practical graphical interfaces began to be created, streamlining the transmission of small data packets to and from the central mainframe server.

Before the introduction of the FidoNet protocol in 1983, early BBSs were primarily localized due to the limitations of telecommunications infrastructure in North America. Intercity connections on regular copper wire telephone wires were prohibitively expensive, restricting users to calling inner city BBSs. To avoid peak telephone line charges, users often went online during early morning or late-night hours. Furthermore, users needed to know the telephone number of a BBS in order to be able to connect to it. Without contacts in other cities willing and able to provide the necessary contact information, connecting to non-local BBSs was next to impossible. Restricting economic and technical factors meant that cross-pollination between different servers was limited during the early years of BBS. This resulted in BBSs evolving in isolation as distinct "digital islands", each with a decidedly local flair and unique features (Driscoll, 2014).

The development of the FidoNet protocol revolutionized the hyper localized North American BBS landscape by transforming it into a global network of interconnected machines. Operating on a store-and-forward network principle, a FidoNet system operator at one location would send a comprehensive data bundle over the telephone line to a nearby system operator. The recipient would add their messages to the data bundle before passing it to the next operator. This method facilitated message transmission across FidoNet nodes without incurring excessive costs for long-distance intercity or international calls.

Over the years, the introduction of specially designed software broadened the scope and interactive capabilities of BBS networks. Faster modems, advanced operating systems, and improved graphics capabilities introduced new features to BBSs. Multiple phone lines enabled real-time synchronous “chat” conversations as well as multiplayer gaming. Faster modems enabled users to go beyond textual communication and share low-resolution images. Commercial "super" BBSs began providing nationwide services for a monthly membership fee. Despite these changes, certain aspects of BBS usage remained the same. For instance, the connection procedure: regardless of location, users directed their modems to dial the local BBS telephone number to avoid toll charges. A series of beeps and a distinctive static sound indicated a successful connection. Once connected, the host BBS would assume control of the computer screen, presenting text-based menus for configuration.

Similarly, regardless of local specificities, users engaged in quite similar activities on a BBS server. Typical activities included electronic messaging (akin to early email), participation in threaded discussion forums, sharing of public domain software, exchanging text files, and enjoying single-player games. Through these activities, users were able to communicate their interests and locate likeminded individuals to socialize with. This meant that BBS networks enabled the flow of both mainstream as well as alternative cultural values and practices. For instance, Patryk Wasiak (2014) highlights that the diverse subcultural backgrounds of BBS users in Europe fostered the dissemination of various non-mainstream content

such as conspiracy theories, hacking techniques, alternative music lyrics, and political manifestos. Wasiak also emphasizes that European BBSs provided a convergence point for two distinct computer cultures—hobbyists and hackers. Specifically, he argues that those involved in the "warez scene" (Wasiak, 2019) harnessed the communication capabilities of BBS technologies to construct a transnational network for trading pirated software across national borders. Cracked games and software would be uploaded by hacker groups to invitation-only “World HQ” BBS servers and then those with access would download and start circulating the pirated content through their own national HQs. This network was not only transnational but also transatlantic in character, meaning that pirates in both the United States as well as Europe used BBS servers to swiftly circulate freshly cracked games and software shortly after their retail availability (Wasiak, 2019, p. 190).

One immediate consequence of piracy was the emergence of a two tiered global BBS hierarchy. On one hand there were the public servers used by ordinary users while on the other were private “elite” BBSs used by various computer subcultures. Some of these invitation-only BBS servers were affiliated with specific groups or “crews” active within various computing subscenes. Often only accepting new members with a reference, these BBSs did not allow ordinary users onto their servers. Often, but not always, elite BBSs carried pirated software and were protected by a NUP (new user password). Their numbers were not advertised and elite BBS adverts used slogans such as "No Lamers!" or "Elite Only” to emphasize their non-mainstream nature. Furthermore, being part of a computing subculture did not automatically guarantee access to these servers. Instead, access was a privilege accorded to "elite" members of specific sub-scenes (Albert, 2020). In comparison, public BBSs tended to only feature legal files, and their numbers were publicly advertised. However, they usually still required user registration, and sysops could refuse accounts to users they considered to be "lame".

In retrospect, Kevin Driscoll (2022) asserts that BBS networks represented some of the earliest instances of social media before the advent of the Internet. Consequently, he argues that they need to be considered precursors to contemporary social media platforms. At the core of Driscoll's argument lies the term "social media," a phrase frequently used but seldom precisely defined. When prompted for a definition, many tend to enumerate a roster of present-day platforms. However, characterizing a medium solely by its current technological manifestation seems inadequate in a world characterized by the rapid evolution of information technology. As Obar and Wildman (2015) emphasize, some of the most popular platforms from the past have been overlooked, while the frontrunners of the future have yet to emerge. Consequently, the most effective definitions remain unbound to a specific implementation.

Carr and Hayes (2015, p. 50) provide a definition of social media as "Internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others." If not for their stipulation that social media channels must be Internet-based, Carr and Hayes' definition applies to the global network of Bulletin Board Systems that thrived from 1977 to 1997. In other words, BBS networks need to be seen as a sort of pre-Internet social media.

Bulletin Boards Systems in Türkiye

Arcade consoles and home computers began arriving in Türkiye shortly after the economic liberalization program announced on the 24th of January 1980. With this program, the Turkish state abandoned its import-substitution industrial development model, encouraged private enterprise and took steps to increase the global competitiveness of Türkiye. All restrictions on international trade were lifted and imported consumer goods flooded the Turkish market. As the country was newly opening up to the world after

almost half a century of economic isolation, many of these goods initially lacked official distribution channels. Instead, they were either brought into Türkiye through a variety of informal, migrant and kinship-based networks. During the early years of economic liberalization, products brought into Türkiye through such networks could be purchased through informal marketplaces known colloquially as "American Bazaars" (*Amerikan Pazarı*).

These locations, often found in proximity to military bases with stationed American personnel or free-trade zones, sold all sorts of bric-a-brac associated with American culture. Although military Army and AirForce Exchange Service shops were not formally open to the local population, products often found their way out. Yet due to lack of reliable supply logistics, numerous intermediaries and soaring demand for imported goods, electronics were often sold at unreasonable prices.

Regardless of their quality (or authenticity), the scarcity and price of these goods rendered them luxuries in the public eye. The same perception applied to imported game consoles and personal computers, thereby making them coveted luxury items for Türkiye's burgeoning middle-class. Fueled by this insatiable demand for electronics, companies such as Atari Inc. and Commodore International enjoyed virtual monopolies in the Turkish game consoles and home computer markets well into the early 1990s. As a result, these computers began to be brought into Türkiye through both official and unofficial channels. In a blog post (Nişanyan, 2009), the first official distributor of Commodore 64 describes the process of bringing the computers into Türkiye with the following words:

> "Commodore was the world leader at that time, but there was no proper distributor in Türkiye, a few companies imported C64s sporadically and put them on their shop showcases. (...) We sent a telex to the Commodore, saying we were interested (...). They replied that they would like to see a feasibility study. Well, what's easier than that? (...) A 50-page market research was prepared in two weeks. Commodore said, "Come to Hong Kong, let's meet. (...) On January 5, 1985, 600 Commodore-64 arrived at Karaköy customs. (...) By noon on the same day, all 600 computers were sold."

Yet unfortunately due to mismanagement as well as competition from unofficial distribution channels, Teleteknik was on the verge of bankruptcy in less than a year. Distributors of other computer platforms were more successful and eventually transformed into technology or education companies. For instance TEPUM, the first distributor of Sinclair computers, exists today as an educational company (Appendix Image II). Yet ultimately, official distributors were ultimately unable to compete with competition from informal shops operating in commerce centers (*iş hanları*). Some widely known business centers of this period are *Yazıcıoğlu*, *Doğubank* or *Tahtakale* in Istanbul. Computers without official distributors in Türkiye were often smuggled into shops in these centers and sold at affordable prices to the wider public. Quite often shops in these centers also sold pirated software as well as spare computer parts. The dominance of these commerce centers in the realm of home computers continued well into the early-1990s due to state imposed tariffs on officially imported computers. Furthermore, lack of any copyright enforcement meant that there was no market for licensed software. Quite simply the policies of the Turkish state made it economically unfeasible for local companies to import computers or software from the United States.

The situation partially improved after Turgut Özal became the president of Türkiye in 1989. Being an avid technologist and outspoken ally of America, Özal often posed in public with computers or even arcade machines (Appendix Image III). As president, Özal asked the ruling Motherland (*Anavatan Partisi*, ANAP) party to lower import tariffs on home computers. As such, he is credited with removing import taxes on personal computers, making them more affordable to the Turkish public. Özal was also responsible for increasing public investment in Türkiye's telecommunication industry and infrastructure.

Growing national telecommunications infrastructure from the late 1980s onward is perhaps the other key enabler in the

popularization of BBSs in Türkiye. Following the announcement of the 1980 economic liberalization program, public investment started following into telecommunications through the National Post and Telegraph Directorate of Türkiye (*Posta ve Telgraf Teşkilatı* or PTT). Initially in 1980, Telecommunications investments were 166 million dollars. In 1983, it was approximately 285 million dollars by 1987 it was 884 million dollars. In 1993, investment in telecommunications reached its all-time historical peak at 248 billion dollars (Akca, 2007). Growing investment led to a boom in the number of landlines throughout Türkiye. In 1980 there were 1,147,782 landlines but by 1993 this number had exploded to 11,019,710 (Türkiye İstatistik Kurumu [TÜİK] 2023). Growth in the number of landlines as well as the increased availability of personal computers meant that the pool of potential BBS users had grown. A personal computer, a landline and a modem was all it took to go online. Yet interestingly enough, growth in the number of landlines did not necessarily make local and intercity connections increasingly affordable. Until the Long Distance Telephone Service (*Uzak Mesafe Telefon Hizmeti*, UMTH) Act of 2004, international and intercity telephone calls were still prohibitively expensive. This meant that BBS usage was confined to those who could afford steep telephone bills, meaning that the majority of BBS users came from a predominantly middle and upper-middle class environment. Engineering and computer science students were another sizable demographic as they could build their own networks and connect to BBS servers from university computer labs. Yet once again it was only the more elite Turkish university who could afford to build computer labs, confining student BBS usage mostly to cities such as Istanbul, Ankara and İzmir. Despite these structural limitations, one can still argue that increased availability of landlines did translate to more BBS users.

There are several competing accounts regarding the establishment of the first BBS in Türkiye. The most renowned version is that Türkiye's first BBS (SoftCom) was established in 1990 by three undergraduate students who were members of the Bosphorus University Engineering Society club (Ünaldı, 2015). Tolga Yurderi (2015), one of Softcom's founders, describes the process with the following words:

> "It didn't take long for us to discover how to download, upload, and chat using the modem. Since it was illegal to use modems at that time in Türkiye, we really had a hard time finding new hardware. One day the miraculous moment arrived when I found a BBS software program in a local computer shop and paid $50 just to copy it! Actually the computing club paid for it, because I managed to convince the board members. I was telling everybody that this new tool would change the way we live, but it was nonsense to my friends and professors, who knew only punch-card computing. I even recall a heated discussion I had with the director of the computing center. I was claiming that there would soon be modems faster than 2400 bps and that we would be able to do client server applications over telephone lines; he gave me, his young student, a lesson about why modems faster than 2400 bps were impossible to build".

The import of modems during the late 1980s and early 1990s was restricted (though technically not illegal), meaning that only banks, universities, state ministries and other public institutions could purchase them. Therefore there were two ways of getting access to a modem: either via working in an institution or through the black market. Even then, it was technically illegal to use modems on national landlines (Şener and Erdikmen, 2019). One source recalls how the first modem he encountered had been taken from an international company, secretly brought home by an employee's son. The son, when visiting his father's workplace on a hot Friday afternoon, disconnected the modem and brought it home to show his friends. They used the modem to call a local elite BBS and download pirated games. The source recalls how throughout the process he was utterly paranoid that the PTT would somehow discover they were using a modem and dispatch the police to arrest them. On Monday, the source's friend went to work early with his father and quickly connected back the modem before anyone had a chance to notice.

As this story illustrates, finding the necessary hardware to set up a BBS was not easy. Similarly, setting up the software needed to run a BBS was also quite complicated, despite pirated software being abundantly available. Although copyright

legislation (Law No. 5846 on Intellectual and Artistic Works) was enacted in 1952 (Akgül and Kırlıdoğ, 2015) and amended in 1995 to criminalize cracking and distribution of software through unofficial channels, this law was very weakly enforced during the 1990s. During this period prices of original software were also exorbitantly high, with a single game often costing around 100 USD. The price of second hand originals were around 25-40 USD. Lack of enforcement as well as high prices for originals led to pirated software being readily available. Although affordable software was available, lay users did not possess the technical know-how to set up a BBS server.

After setting up the first local BBS in Türkiye, the founders of SoftCom decided to connect with BBS systems in other countries. With the help of Greek BBS operators, SoftCom managed to join the global FidoNet network, hence opening a window to the world from Bosphorus University to the world. Soon afterwards, the Turkish national broadcaster, TRT 1, interviewed the three engineering students, presenting SoftCom as a national technological breakthrough. The interview created public interest on the subject and soon local BBSs were cropping up throughout the metropolitan centers of Türkiye. Computer magazines started publishing articles about how to set up BBS servers, disseminating necessary technical knowledge to lay audiences. Following global trends, a two tiered BBS hierarchy began to emerge in Türkiye.

According to the cataloging project DemoZoo, the elite BBS active in Türkiye during the 1990s were Pentium Illusion in Ankara as well as Chronique and Death Field in Istanbul. These servers were primarily used by members of the Demoscene ("crews"), a computing subculture that produces short audiovisual computer programs ("demos") showcasing programming and artistic prowess skills (Appendix Image I). As the name suggests, Pentium Illusion featured PC related content. It was also the Turkish HQ for TriLoXy, an international demoscene group.[1] The Istanbul-based Chronique was the world HQ for Clique, a Turkish C64 and Amiga group formed out of Bronx, an Amiga demo group formed in 1990. Finally, as a Telnet accessible BBS affiliated with the international Saints collective, Death Field was oriented towards music production and the tracking scene.

On the other hand, some public BBSs during the early 1990s were Abaza, Ada and Heaven in Ankara; ESS and Kedi in Eskişehir; Bizim, Clinique, Cybernet, Damaged Justice, Deep Abyss, Destination, Needful Things, Rocka Rolla, Sentinel, Skullcrusher, Split Seven, Technique, Transilvanya and Trespass in İstanbul; Gecko, BBS Turk, Ege, and Iris in İzmir. Due to the laxity of copyright enforcement in Türkiye, it is worth noting that despite their public nature, many of these BBSs featured pirated software. Similarly, due to the lack of legal regulation, some public BBSs (but not all), featured a file area for topics such as hacking, phreaking (fraudulent manipulation of telecommunications systems) or virus making. Many though not all of these public BBSs were connected with one another through an array of national networks, the most popular being HiTNet (*Hi! Türkiye Network*).

Established in 1992 by a collective of Ankara-based computer enthusiasts, the Hi! Türkiye Network was developed by combining Fidonet networking protocols with an echo-mail system. This innovative setup facilitated the nationwide dissemination of message packets from local BBS. In contrast to local BBSs that primarily linked users within the same locality, the broader-reaching HiTNet interconnected individuals from across Türkiye. Moreover, since HiTNet operated within the framework of Fidonet protocols, it could engage with the global Fidonet network. Situated in Fidonet zone 8, designated for "othernets" utilizing Fido-compatible software, HiTNet embodied a distinct organizational structure. This architecture enabled data exchange, allowing a local BBS in Türkiye to communicate with counterparts on the opposite side of the world via Fidonet.

1 TriLoXy itself was a subgroup of Brutal PPE Coders, a Russian PC BBS modding group active during the mid-1990s.

At the peak of Hitnet's popularity, the network had around 30 nodes active in Istanbul, Ankara, İzmir, Eskişehir and Northern Cyprus. The extensive reach of HiTNet, both nationally and internationally, fostered a unique sense of community distinct from local BBSs. Notably, this communal atmosphere was characterized by users who often had not met and were unlikely to meet due to the network's broad scope.

To disseminate information, local BBS sysops adhered to specific timeframes called "event hours" to connect with HiTNet. During these periods, they uploaded accumulated message logs from their local networks and downloaded logs from other HiTNet-affiliated BBSs. These logs were then eventually distributed to individual home computers via the local HiTNet BBS hub. The offline mail readers (OMRs), known as terminal programs, were employed to access these message logs. Users composed responses using OMRs, which were then uploaded to the local BBS hub and subsequently shared during the next cycle of communication within HiTNet. This approach not only optimized connection times to local hubs but also kept the landline bills for local users, often utilizing home telephones within manageable limits.

Methodology

The archive utilized in this study is accessible to the public and has been shared on the Internet by a computing enthusiast. It is currently the only publicly accessible Turkish language BBS archive, consists of messages from three different BBS nodes dating from 1993-1996. Several technical measures were undertaken to access the message logs within the archive. A software emulator (DosBox) was used to operate Wolverine, an offline mail reader (OMR). It is worth noting that Wolverine was the first OMR to have Turkish language support (Furman, 2015). This emulation was essential, as compatibility issues between older MS-DOS software and contemporary operating systems would have rendered running Wolverine impossible.

The subsequent step involved using Wolverine to access the files contained in the archive. Each file contained a set of message logs, organized according to criteria like size, date, and total message count. These logs predominantly originated from three local BBS servers: ADABBS, BBS_BLUE, and ESS. Within each message log, an array of different topic folders can be found (see Appendix Image IV). These folders are classified as either "local" or "echo." The former is designated for messages circulated within the local BBS hub, while the latter is reserved for messages distributed via HiTNet. The majority of messages in the archive fall under the "echo" category. A moderator is assigned to each folder, ensuring adherence to HiTNet guidelines.

Content analysis was applied after reading through the entire archive. Content analysis is a research method used to systematically analyze and evaluate the content of written, verbal, or visual materials (Neuendorf, 2002). The primary goal of academic content analysis is to gain insights, draw conclusions, or make inferences about the content under investigation. Within the context of this study, content analysis was used to make inferences about the nature of communication in the HiTNet archive. Following the framework set out by Holsti (1969), archival content was studied ("what do the messages say?") to determine trends and discussion topics.

Results

Before proceeding further, it is worth devoting some space to the characteristics of the archive itself. The HiTNet archive contains a total of 80 echo folders but only 20 folders contain messages. These echo folders are distributed across the three different BBS servers. Each of these message folders are dedicated to a specific topic (for instance, "PC games"). Some topic folders are only found on a single BBS server while others are found across all three. While there are 20 topic folders, there are a total of 160 message logs. The majority of these message logs are from the ESS BBS server (116). The rest are either from ADA (36) or Blue (6).

The archive is not anonymous, meaning that users use their real names when communicating.

Counting the number of times a topic folder reoccurs in the 160 message logs offers us a glimpse into what kinds of content were featured on HiTNet. For the sake of legibility, the 20 topic folders were combined into 6 meta categories. For the computing category, the following topics folders were cumulatively combined: *Donanım*, *Elektronik*, *Multimedia*, *OS2* (Operating System 2), *Programlama*, *Ses Kartları* and *Windows*. For humor, two topic categories were combined: *Mizah* and *Yetişkin Mizah*. For the society category, five categories were combined: *Damak Zevki* (food), *Bilim Kurgu*, *Bilim*, *Futbol* and *Yetişkin* (sexuality).

Topic	Total
Computing	535
Humor (Regular + Adult)	452
Computer Games	104
Society (Food + Football + Sexuality + Science + Science Fiction)	64
Chat	47
News (HiTNet + BBS)	7

Discussion

Contents of the HiTNet archive present a mixed picture that both affirms as well as contradicts international academic literature on global BBS usage. On one hand the archive is replete with local references to universities, high schools, restaurants, unique culinary traditions, and sports teams in Ankara (Ada and Blue) as well as Eskişehir (ESS), affirming the hyper-localized nature of these BBS networks. For instance, there is an entire message thread dedicated to Aspava, a fast food restaurant category unique to Ankara and very popular among university students. Yet on the hand, there is a surprising degree of homogeneity in the messages found within the humor, the only mutually shared topic category across all the three BBS servers. There is also a total lack of non-mainstream content (conspiracy theories, alternative music lyrics, and political manifestos) on all three servers.

Perhaps unsurprisingly, the most popular topic in the HiTNet archives is computing. Within the topic of computing, most of the messages are posted by users with male names. This suggests that the primary user base of HiTNet was middle-class male computer enthusiasts whose primary interest was what Driscoll (2020) describes as the "the intrinsic pleasure of technical mastery" and who were driven by a "fraternal intimacy sustained by technologically-mediated communication".

Humor is the second most popular category in the HiTNet archive while a distant third is computer games. In the computer games category, one encounters content that is quite typical of any contemporary modern day Internet forum. The messages are posted by users who can be categorized into three broad and non-exclusive categories: askers, providers and advertisers. There are requests for cheats and walkthroughs, calls for multiplayer tournaments or game swaps, purchasing recommendations, reviews and software patches. There are users providing solutions to in-game puzzles, workarounds for technical problems and tips for better quality gameplay.

Yet one thing that stands out is the way piracy is discussed in the archive. Despite warnings from moderators about staying within the legal boundaries of Law No. 5846, these warnings are not really heeded to (Appendix Image IV). One encounters posts praising the price and quality of pirated games purchased from certain shops. There are also complaints about bad quality copies from others. Downloading games from BBSs are also mentioned, albeit much less frequently. In fact, there are only fleeting references to BBS featuring pirated software. Furthermore these referenced BBS servers are never ones on the HiTNet network, but are instead networks accessible by a landline number provided in the post itself (Appendix Image V). In other words, there is no pirated software on HiTNet affiliated servers, but there are adverts on HiTNet for servers that distribute pirated software. Downloading free games from HiTNet is not allowed but finding out where to download

free games is. By allowing pirate BBSs to advertise themselves, HiTNet implicitly endorses software piracy but does not engage in it. Advertising suggests there the presence of a "visible invisible" warez scene. Yet the intertwining of warez scene and HiTNet is quite discrete, often leading to some rather interesting complications. For instance, one user complains about not being given access to game downloading BBSs: “Is there no BBS in Istanbul that allows free downloads? Everywhere I go, they turn me down saying I have no right to download stuff...” (Eren 1995). The problems experienced by this user when downloading a demo of *İstanbul Efsaneleri: Lale Savaşçıları*, the first Turkish fantasy role playing game, signals a rift between elite and public BBSs. Due to his status as a “lamer”, the user is unable to access elite BBSs that offer the demo. It is only after several tries that the user is finally able to download the demo from a sympathetic BBS. This example proves that access to elite BBSs was not necessarily open to everyone and that there was an implicit hierarchy of users.

When the six meta categories are distributed across the three local BBSs (ESS, ADA and BLUE), we can see that each BBS features different types of content (Appendix Charts 1, 2 and 3). The variety of message categories encountered across BBS servers further reflects how hyperlocal and unique each of these “digital islands” were. As the results demonstrate, topics extremely popular on one server are not at all popular on others. For instance, out of 118 message logs for ESS, 58% have at least one topic folders dedicated to computing. In comparison, ADA and BLUE do not have any topic folders for computers. This suggests that ESS was a BBS server catering specifically to computer enthusiasts. The presence of other categories that would be of interest to computer enthusiasts such as games and science fiction also needs to be taken into account within this context.

On the other hand, 50% of BLUE and 21.1% of ADA message logs have a topic dedicated to food. This is also revealing insofar as it suggests that both BBSs catered more towards the mainstream rather than a specific computing (sub)culture. The presence of topics such as football on BLUE also strengthens such a possibility. Remarkably, humor is the only category common to all three BBSs, with 22.9% of ESS, 44.6% of ADA and 26.3% of BLUE message logs having at least one topic folder dedicated to humor. In this category, one typically encounters humor in the form of small talk or informal conversation typically focused on non-serious or superficial topics. As it has been noted elsewhere (Furman 2015), humor within early online communities helped users establish rapport with one another and create a comfortable atmosphere for asynchronous online communication.

The other type of humor popularly found in the archive consists of jokes. When looking through the message logs, one sees that there are two categories of jokes commonly encountered in the humor category; folk and satire. Folk jokes (*fıkra*), also known as traditional jokes or folklore jokes, are humorous narratives, anecdotes, or expressions that are passed down through generations within a particular culture or community. These jokes often reflect the values, beliefs, customs, and shared experiences of the people who tell and hear them. Folk jokes may involve wordplay, puns, exaggeration, or absurd situations, and they are typically designed to entertain and amuse the audience.

Unlike modern jokes that might circulate widely through media and the Internet, folk jokes are often localized and specific to a certain cultural context. They contribute to the oral tradition of storytelling and humor within a community, helping to strengthen social bonds and convey shared cultural knowledge. Over time, folk jokes may evolve or adapt to changes in society while retaining their core elements, making them an important part of a culture's folklore and heritage.

The second type of joke is related to Turkish satire and caricature culture. In this category one can see the influence of the popular Turkish satire journals of the period. Most of humor in this subcategory consists of textual adaptations of satire journal content.

Conclusion

Despite their rapid disappearance with the arrival of the Internet, BBSs were the first computing technology that facilitated online communication in Türkiye. As a network, HiTNet allowed users throughout Türkiye to communicate with another, effectively opening a national online space for public discussion. As such, HiTNet as well as the numerous local BBS servers it connected, needs to be seen as a precursor of social media in Türkiye.

The HiTNet archive reveals that computing was the most popular topic, suggesting a user base of middle-class males driven by technical mastery and sustained by technologically-mediated communication. Yet the seemingly homogeneous nature of HiTNet users should motivate researchers to seek stories of BBSs that do not conform to this rule. Researchers need to investigate whether there were any women-only, pious or non-Turkish language BBSs active in Türkiye during this period.

After computing, humor was the second most popular topic, followed by computer games. Two types of humor were prominent: folk jokes, passed down through generations within a culture, and satire, influenced by Turkish journals like *Le Man* and *Gırgır*.

Discussions in the gaming category resembled those on contemporary Internet forums, featuring queries, offers, and ads for cheats, multiplayer events, recommendations, and software patches. Notably, dialogue about pirated games persisted despite warnings about legality, implying implicit endorsement by HiTNet. Despite refraining from directly engaging in software piracy directly, public networks such as HiTNet implicitly endorsed it by allowing pirate BBSs to promote themselves.

When comparing three local BBSs (ESS, ADA, and BLUE), diverse content types emerged. ESS predominantly focused on computing, while BLUE and ADA featured topics like food, implying a more mainstream audience. Humor was the sole common category, fostering rapport and comfortable asynchronous communication. Overall, the HiTNet BBS archive provides insights into user preferences, hierarchical access, and the presence of humor and jokes, revealing the diverse dynamics of this early online community.

In conclusion, the findings of this article suggests that the HiTNet archive presents a mixed picture that both affirms as well as contradicts international academic literature on global BBS usage. On one hand there are elements affirming the hyperlocal nature of BBS networks (message contents, unique topics for each server). On the other, there are mutual elements (humour) that complicate the framing of Turkish BBSs as hyperlocal entities. Accordingly one can tentatively argue that HiTNet users, while bound to their local geographical context, belonged to a relatively homogenous demographic (male university students and computing enthusiasts).

Unfortunately, the findings of this article are not generalizable for all HiTNet users due to very limited nature of the sample studied. The archive used for this article has content from only 20 out of 80 message folders on the HiTNet network, meaning that the content for the remaining 60 still need to be found and catalogued. Similarly, archival material for ADA and BLUE BBSs remain woefully limited in comparison to ESS. The lack of any archival material from Istanbul-based BBSs is another deeply problematic issue needing to be urgently addressed. Finally, there are many elite BBSs whose archives need to be accounted for in some sort of way. Without further archival content, it is difficult to make any generalizations about BBS usage in Türkiye.

Despite the historical importance of BBSs for Türkiye's born digital cultural heritage, the lack of accessible BBS archives means the period dating from 1990-1997 is at risk of being entirely forgotten to future generations. This issue was further expounded by the Y2K date problem that plagued computers during the late 1990s. Up until the millennium many programs represented four-digit years with only the final two digits, making the year 2000 indistinguishable from 1900. It was

predicted that the inability of computers to distinguish dates correctly had the potential to bring down worldwide infrastructures for computer reliant industries. This caused many technological infrastructure providers to switch to Y2K compatible software. In Türkiye, BBSs users began to switch from Blue Wave OMR to Y2K compatible software from 1999 onwards, inadvertently deleting their old messages in the process. This means that there are probably very few surviving BBS archives in Türkiye. As such, this article would like to conclude by stressing that archival research needs to be urgently undertaken in Türkiye to catalog what remains from this era. Standardized data storage protocols need to be developed to secure information remaining from this era. Without further research, we risk losing access to all online communication between 1990 and 1997.

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Extended Abstract

As an online communication technology predating the Internet, Bulletin Board Systems (BBSs) are considered to be precursors of modern-day social media. As a communications technology, Bulletin Board Systems (BBSs) were localized networks of computers interconnected through basic modem technologies and standard telephone lines. In contrast to the militaristic origins of the Internet, BBS networking technologies were entirely civilian in their origin. They were also the first communication technology that truly allowed users to communicate with one another on a global scale. Despite being a popular technology of its era both in Türkiye and abroad, BBS technologies tend to be entirely overlooked in historical accounts of online communication.

This article begins with an overview on the history of BBS technologies both in Türkiye and abroad. BBS technologies arrived in Türkiye almost a decade after they began to be used in North America and Western Europe. In fact, BBS technologies began to be widely used right around the time when the Internet was arriving in Türkiye. Consequently, the "golden age" of BBSs in Türkiye was quite brief (1990-1997) and took place during a period when BBS usage was already on the decline globally. Despite their short existence from 1990 until 1997, this paper argues that BBSs were able to facilitate the formation of the first online communities in Türkiye, capturing the imagination of students, computer enthusiasts and others.

It then introduces the HiTNet archive, currently the only publicly accessible Turkish language BBS archive in the world. Established in 1992 by a collective of Ankara-based computer enthusiasts, the Hi! Türkiye Network was developed by combining Fidonet networking protocols with an echo-mail system. This setup facilitated the nationwide dissemination of message packets from local BBS. In contrast to local BBSs that primarily linked users within the same locality, the broader-reaching HiTNet interconnected individuals from across Türkiye. At the peak of HiTNet's popularity, the network had around 30 nodes active in Istanbul, Ankara, İzmir, Eskişehir and Northern Cyprus.

The HiTNet archive contains a total of 20 echo folders containing 160 message logs. These echo folders are distributed across the three different BBS servers (ESS, ADA and Blue). Each of these message folders are dedicated to a specific topic. Some topic folders are only found on a single BBS server while others are found across all three. While there are 20 topic folders, there are a total of 160 message logs. The majority of these message logs are from the ESS BBS server (116). The rest are either from ADA (36) or Blue (6). The archive is not anonymous, meaning that users use their real names when communicating.

Using applied content analysis, the article then explores whether contents of the HiTNet archive align with the findings of international academic literature on global BBS usage. Prior to content analysis, several technical measures were undertaken to access the message logs within the archive. A software emulator (DosBox) was used to operate Wolverine, an offline mail reader (OMR). This emulation was essential, as compatibility issues between older MS-DOS software and contemporary operating systems would have rendered running Wolverine impossible.

The findings of paint a mixed picture wherein certain aspects of the HiTNet archive present a mixed picture that both affirms as well as contradicts academic literature. On one hand there are elements affirming the hyperlocal nature of BBS networks (message contents, unique topics for each server). On the other, there are mutual elements (humour) that complicate the framing of Turkish BBSs as hyperlocal entities. Accordingly one can tentatively argue that HiTNet users, while bound to their local geographical context, belonged to a relatively homogenous demographic (male university students and computing enthusiasts).

Unfortunately, the findings of this article are not generalizable for all HiTNet users due to very limited nature of the sample studied. The archive used for this article has content from only 20 out of 80 message folders on the HiTNet network, meaning that the content for the remaining 60 still need to be found and catalogued. The lack of any archival material from Istanbul-based BBSs is another deeply problematic issue needing to be urgently addressed. Finally, there are many elite BBSs whose archives need to be accounted for in some sort of way.

The lack of accessible archives means that it is increasingly difficult to access BBS content from the period dating from 1990-1997. Despite the historical importance of BBSs for Türkiye's born digital cultural heritage, the lack of accessible BBS archives means the period dating from 1990-1997 is at risk of being entirely forgotten to future generations. The article concludes by stressing that archival research needs to be urgently undertaken in Türkiye to catalog what remains from the BBS era. If no action is taken, we risk losing access to all online communication between 1990 and 1997.

Yazar Bilgileri

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Conflict of Interest

Herhangi bir çıkar çatışması bulunmamaktadır. None

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Appendix

Charts

Chart I
Topic Categories for ESS BBS

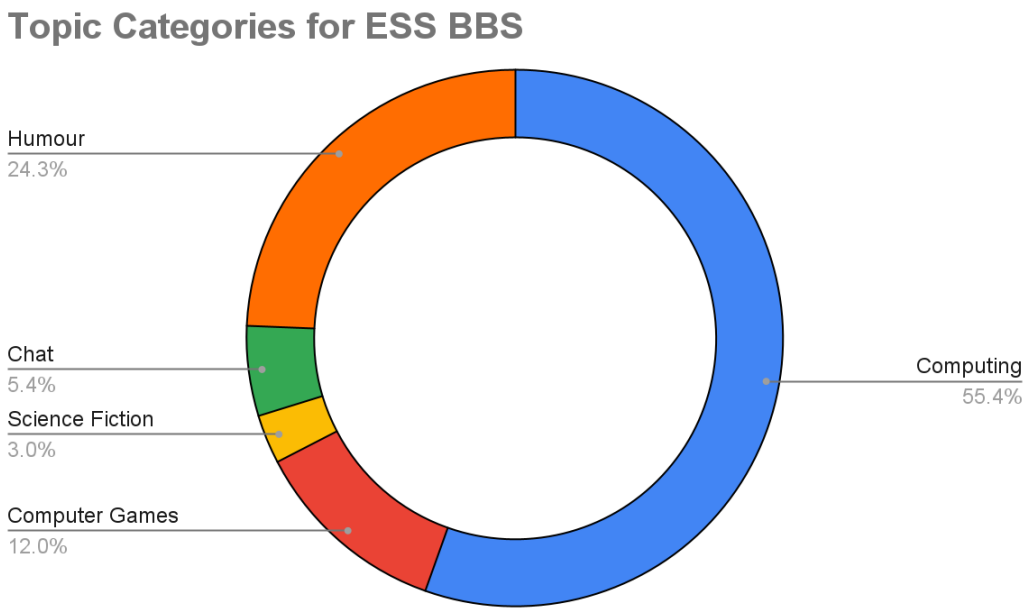


Chart II
Topic Categories for ADA BBS

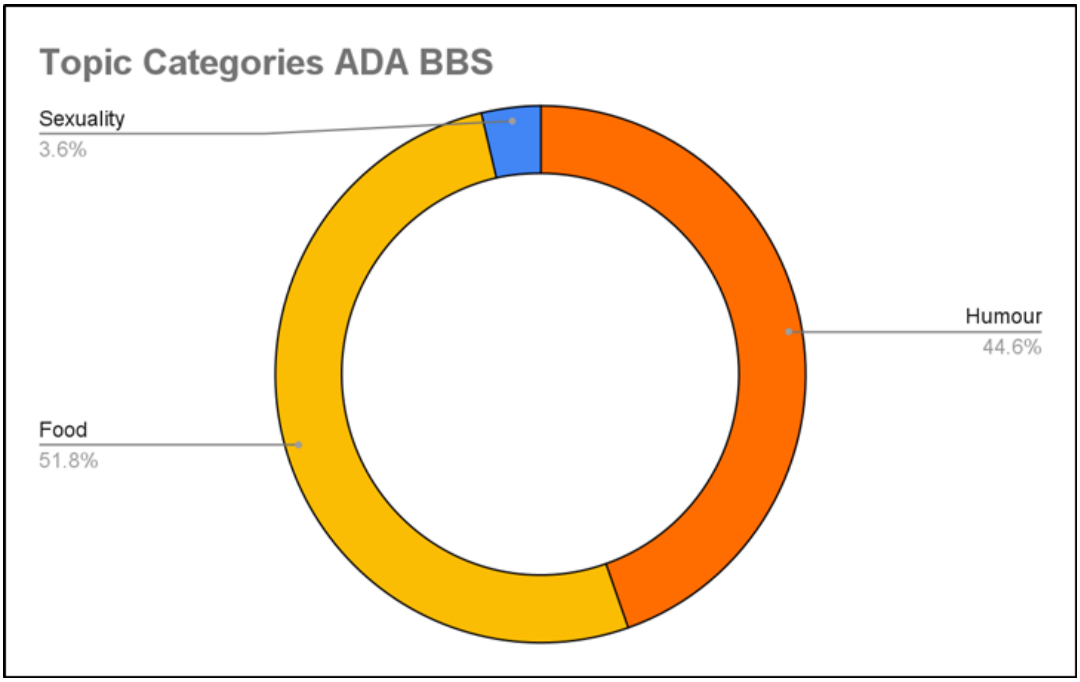
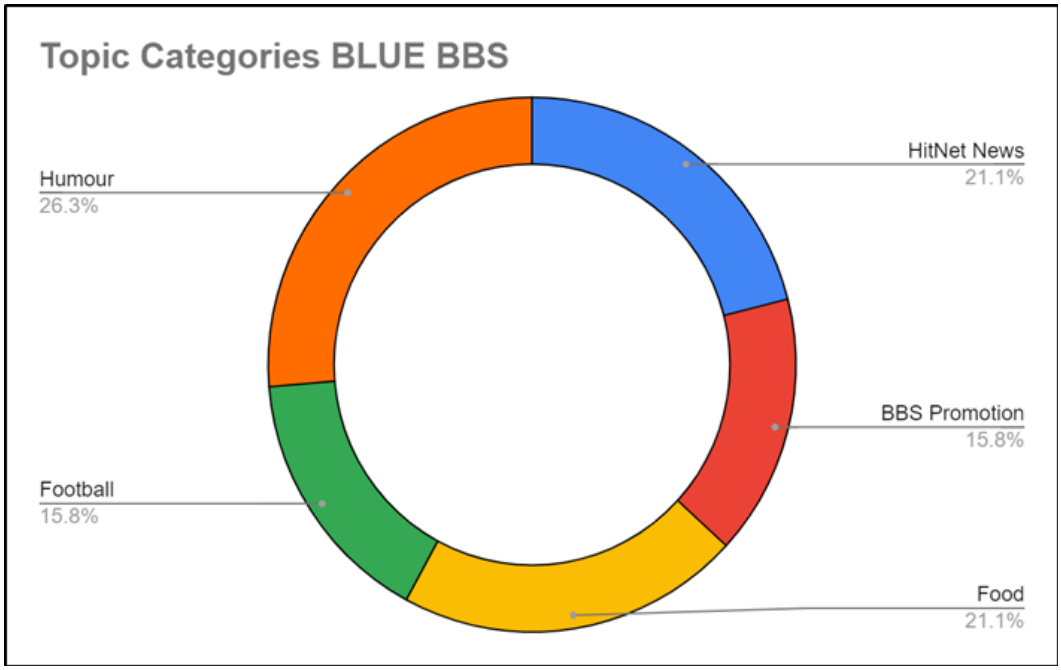


Chart III

Topic Categories for BLUE BBS



Images

Image I

Screenshots of Turkish Elite BBS Landing Pages (Chronique, Split Seven, Bronx)

Image II

A TEPUM catalog from 1984 (found on https://www.commodore.gen.tr/forum/index.php?topic=6003.0)

Türkiye'nin En Çok Kullanılan Bilgisayarı

Sinclair ZX Spectrum

Türkiye'nin en geniş Türkçe program kütüphanesine sahip olan, işyerlerinde, bürolarda, okullarda, evlerde en çok kullanılan bilgisayar.

Tasarımı Sinclair Research Ltd. tarafından geliştirilen Sinclair kendi alanında en üstün teknolojiye sahiptir. Basic dilinde saniyede 330, makine kodunda saniyede 2 bin temel matematik işlemi yapabilmekte, ekranda saniyede 4 bin noktanın yerini değiştirebilmektedir. Bu nedenle muhasebe, mühendislik gibi işlemlerde hız, ekranda ise son derece ayrıntılı çizim ve hareket üstünlüğüne sahip bulunmaktadır. Sinclair tüm Dünya'da olduğu gibi Türkiye'de de iş sahiplerinin, mühendislerin, mali ve teknik personelin, öğretmenlerin, öğrencilerin en çok kullandığı bilgisayar olmuştur. Çünkü Sinclair Türkiye'de TEPUM tarafından hazırlanan en geniş Türkçe program desteğine ve gerekli tüm bakım-onarım hizmetlerine sahip olan bilgisayardır.

Teknik Üstünlükleri

- Erişilmesi güç bir işlem hızı ve görüntü hareketliliği
- Ekranda son derece hassas çizim imkanı
- 8 ayrı renk, 10 oktavda ses
- Televizyon ve teybe bağlanabilme kolaylığı
- 16K silinmez bellek (ROM), 16K ya da 48K kullanılabilir bellek (RAM).
- 6 Farklı yol gösterici sinyalle programlama kolaylığı. Grafik ve fonksiyon tanımlama imkanları.
- Hataları anında bildiren mesajlar
- Kullanıma hazır BASIC dili. Ayrıca Pascal, Forth, Logo, Turtle, Machine Code kullanım imkanı

Genişleme Olanakları

1. **Micro-drive**
   Teyp yerine kullanılır. 90K dış bellek sağlar. 8 tane micro-drive bir arada kullanılabilir.
2. **Interface-1**
   Micro-drive, yazıcı gibi ünitelerin bilgisayara bağlanmasını sağlar. Ayrıca 64 tane Spectrum arasında iletişim ağı oluşturur.
3. **Büyük Yazıcı**
   Delikli A4 formunda normal kağıda basan Seikosha türünde RS 232 ya da Centronics Interface kullanan yazıcılar Spectrum'a bağlanabilmektedir.
4. **Kumanda Kolu (Joystick)**
   Ekrandaki hareketlere elle kumanda edilmesini sağlar.

Image III
Turgut Özal posing with an IBM personal computer

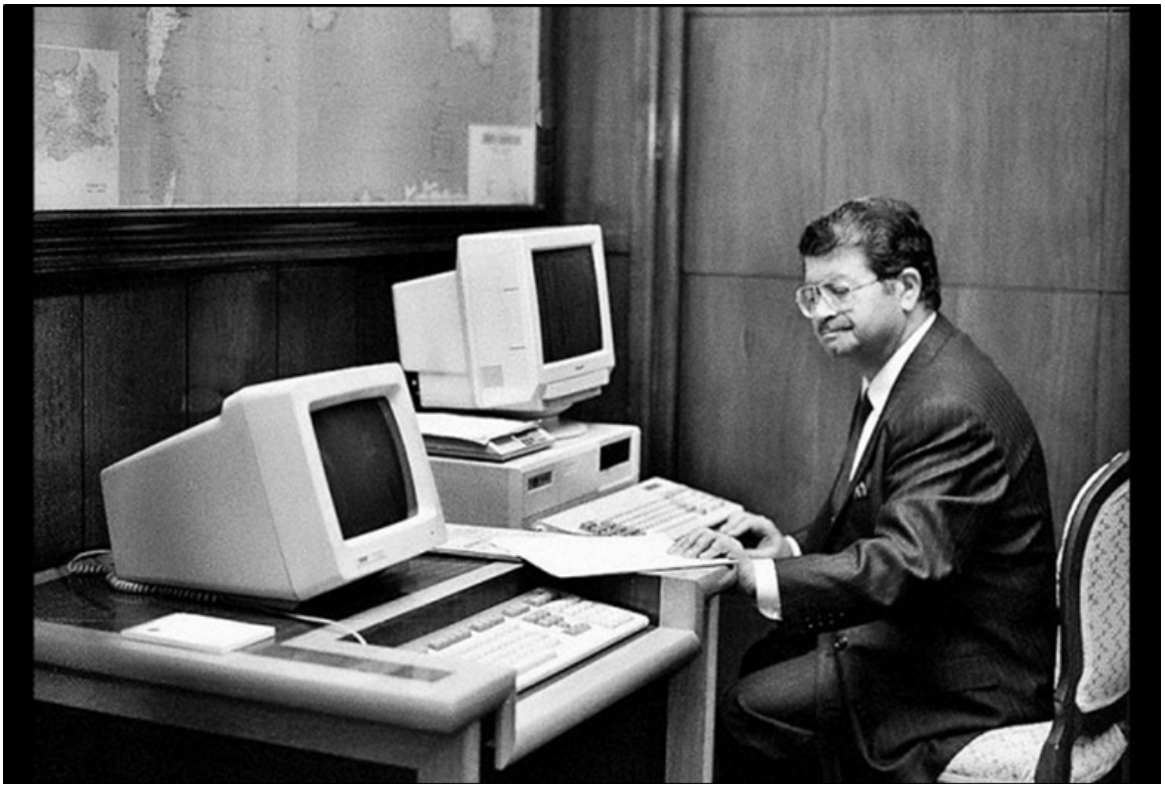


Image IV
Typical Message Log (ESS 85) With Different Topic Folders

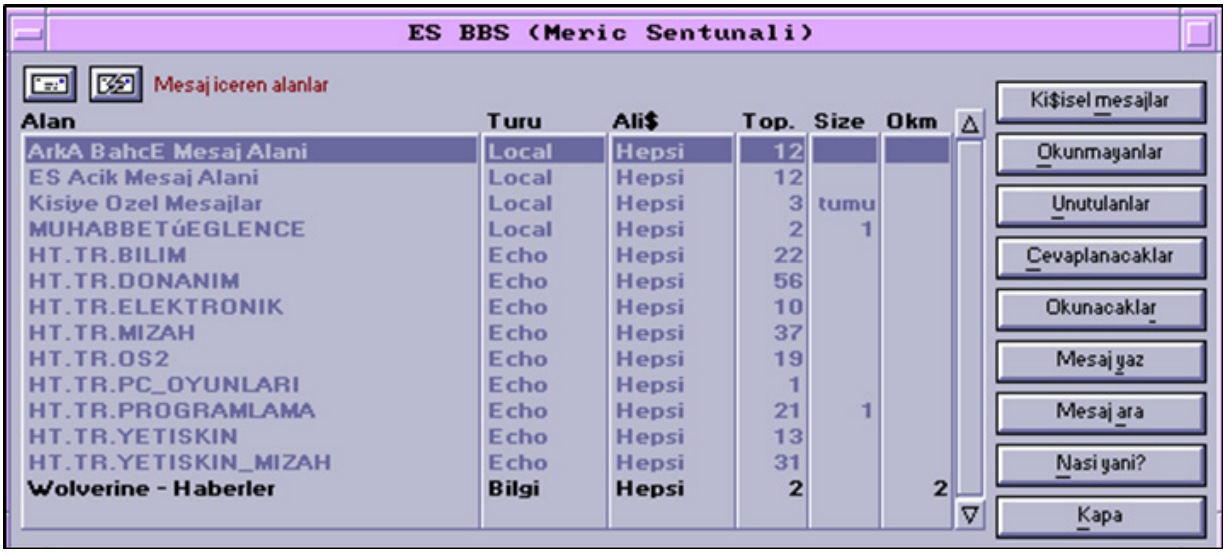


Image IV

"It is Forbidden to Engage in Illegal Activities on HiTNet!" – Warning Posted by a HiTNet Moderator

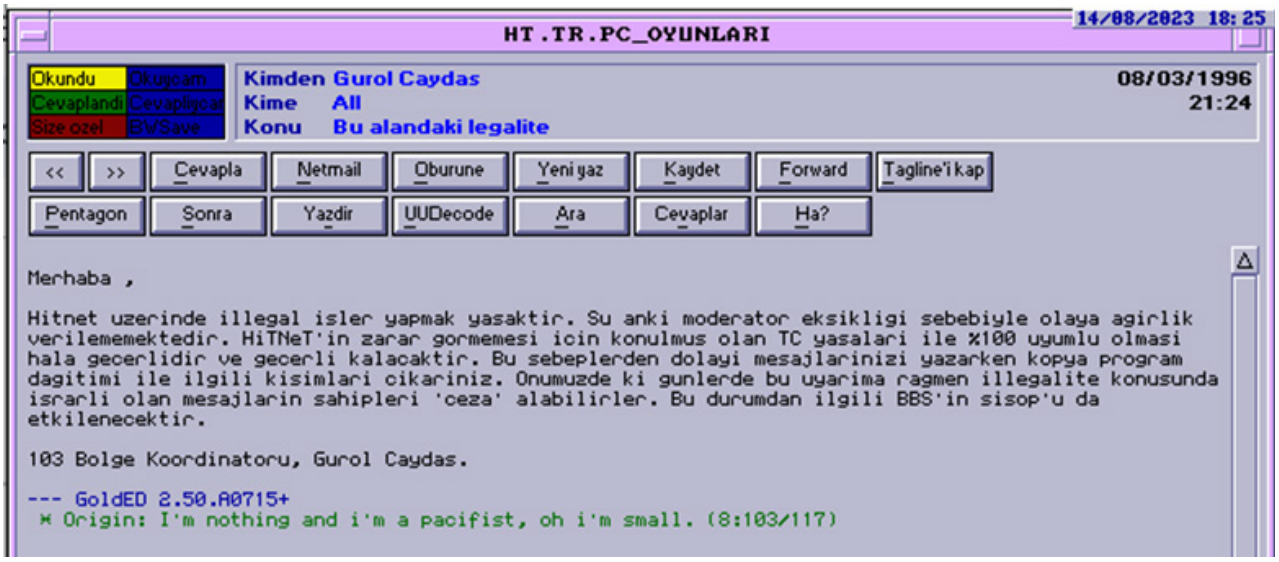


Image V

A Pirate BBS Advertising on HiTNet