Virus timeline

When did viruses, Trojans and worms begin to pose a threat? Most histories of viruses start with the Brain virus, written in 1986. That was just the first virus for a Microsoft PC, though. Programs with all the characteristics of viruses date back much further. Here’s a timeline showing key moments in virus history.

1949  **Self-reproducing “cellular automata”**  
John von Neumann, the father of cybernetics, published a paper suggesting that a computer program could reproduce itself.

1959  **Core Wars**  
H Douglas McIlroy, Victor Vysottsky, and Robert P Morris of Bell Labs developed a computer game called Core Wars, in which programs called organisms competed for computer processing time.

1960  **“Rabbit” programs**  
Programmers began to write placeholders for mainframe computers. If no jobs were waiting, these programs added a copy of themselves to the end of the queue. They were nicknamed “rabbits” because they multiplied, using up system resources.

1971  **The first worm**  
Bob Thomas, a developer working on ARPANET, a precursor to the internet, wrote a program called Creeper that passed from computer to computer, displaying a message.
1975  **Replicating code**
A K Dewdney wrote Pervade as a sub-routine for a game run on computers using the UNIVAC 1100 system. When any user played the game, it silently copied the latest version of itself into every accessible directory, including shared directories, consequently spreading throughout the network.

1978  **The Vampire worm**
John Shoch and Jon Hupp at Xerox PARC began experimenting with worms designed to perform helpful tasks. The Vampire worm was idle during the day, but at night it assigned tasks to under-used computers.

1981  **Apple virus**
Joe Dellinger, a student at Texas A&M University, modified the operating system on Apple II diskettes so that it would behave as a virus. As the virus had unintended side-effects, it was never released, but further versions were written and allowed to spread.

1982  **Apple virus with side effects**
Rich Skrenta, a 15-year-old, wrote Elk Cloner for the Apple II operating system. Elk Cloner ran whenever a computer was started from an infected floppy disk, and would infect any other floppy put into the disk drive. It displayed a message every 50 times the computer was started.

1985  **Mail Trojan**
The EGABTR Trojan horse was distributed via mailboxes, posing as a program designed to improve graphics display. However, once run, it deleted all files on the hard disk and displayed a message.

1986  **The first virus for PCs**
The first virus for IBM PCs, Brain, was allegedly written by two brothers in Pakistan, when they noticed that people were copying their software. The virus put a copy of itself and a copyright message on any floppy disk copies their customers made.
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<tr>
<th>Year</th>
<th>Event</th>
<th>Description</th>
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<tbody>
<tr>
<td>1987</td>
<td>The Christmas tree worm</td>
<td>This was an email Christmas card that included program code. If the user ran it, it drew a Christmas tree as promised, but also forwarded itself to everyone in the user’s address book. The traffic paralyzed the IBM worldwide network.</td>
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<td>1988</td>
<td>The Internet Worm</td>
<td>Robert Morris, a 23-year-old student, released a worm on the US DARPA internet. It spread to thousands of computers and, due to an error, kept re-infecting computers many times, causing them to crash.</td>
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<td>1989</td>
<td>Trojan demands ransom</td>
<td>The AIDS Trojan horse came on a floppy disk that offered information about AIDS and HIV. The Trojan encrypted the computer’s hard disk and demanded payment in exchange for the password.</td>
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<td>1991</td>
<td>The first polymorphic virus</td>
<td>Tequila was the first widespread polymorphic virus. Polymorphic viruses make detection difficult for virus scanners by changing their appearance with each new infection.</td>
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<td>1992</td>
<td>The Michelangelo panic</td>
<td>The Michelangelo virus was designed to erase computer hard disks each year on March 6 (Michelangelo’s birthday). After two companies accidentally distributed infected disks and PCs, there was worldwide panic, but few computers were infected.</td>
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<td>1994</td>
<td>The first email virus hoax</td>
<td>The first email hoax warned of a malicious virus that would erase an entire hard drive just by opening an email with the subject line “Good Times”.</td>
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<td>1995</td>
<td>The first document virus</td>
<td>The first document or “macro” virus, <strong>Concept</strong>, appeared. It spread by exploiting the macros in Microsoft Word.</td>
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1998  **The first virus to affect hardware**
*CIH* or *Chernobyl* became the first virus to paralyze computer hardware. The virus attacked the BIOS, which is needed to boot up the computer.

1999  **Email viruses**
*Melissa*, a virus that forwards itself by email, spread worldwide.

*Bubbleboy*, the first virus to infect a computer when email is viewed, appeared.

2000  **Denial-of-service attacks**
“Distributed denial-of-service” attacks by hackers put Yahoo, eBay, Amazon, and other high profile websites offline for several hours.

*Love Bug* became the most successful email virus yet.

2000  **Palm virus**
The first virus appeared for the Palm operating system, although no users were infected.

2001  **Viruses spread via websites or network shares**
Malicious programs began to exploit vulnerabilities in software, so that they could spread without user intervention. *Nimda* infected users who simply browsed a website. *Sircam* used its own email program to spread, and also spread via network shares.

2004  **IRC bots**
Malicious IRC (Internet Relay Chat) bots were developed. Trojans could place the bot on a computer, where it would connect to an IRC channel without the user’s knowledge and give control of the computer to hackers.
2003  **Zombie, Phishing**
The *Sobig* worm gave control of the PC to hackers, so that it became a “zombie”, which could be used to send spam.

The *Mimail* worm posed as an email from Paypal, asking users to confirm credit card information.

2005  **Rootkits**
Sony’s DRM copy protection system, included on music CDs, installed a “rootkit” on users’ PCs, hiding files so that they could not be duplicated. Hackers wrote Trojans to exploit this security weakness and install a hidden “back door”.

2006  **Share price scams**
Spam mail hyping shares in small companies (“pump-and-dump” spam) became common.

2006  **Ransomware**
The *Zippo* and *Archiveus* Trojan horse programs, which encrypted users’ files and demanded payment in exchange for the password, were early examples of ransomware.

2008  **Fake anti-virus software**
Scaremongering tactics encourage people to hand over credit card details for fake anti-virus products like *AntiVirus 2008*.

2009  **Conficker hits the headlines**
Conficker, a worm that initially infects via unpatched machines, creates a media storm across the world.

2009  **Polymorphic viruses rise again**
Complex viruses return with avengance, including *Scribble*, a virus which mutates its appearance on each infection and used multiple vectors of attack.