SE4C03 Winter 2004: **The Computer Virus Culture**

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Relatively speaking, computer viruses are a new and unique phenomenon among computer users. During the beginning of the computer revolution computer security was only a passing concern. The industry was more concerned with 'phreakers', a term given to people who were able to manipulate telephone networks, than with damaging software (Krebs, 2003). Indeed, the idea of a 'computer virus' was not thought of until 1983, when PhD student Fred Cohen coined the term (Krebs, 2003). At the time the term computer virus was used to describe a program that can "affect other computer programs by modifying them in such a way as to include a (possibly evolved) copy of itself" (Krebs, 2003).

It was not until three years later, in 1986, that the world saw its first working computer virus. This virus, called the Brain virus, targeted the boot sectors of computers. As well, this virus was able to hide itself from detection (EXN, 2003). In the years following the release of the Brain virus, the world saw many more viruses enter the computer scene. Two years later, in 1988, the first piece of anti-virus software was written to combat the spread of computer viruses (EXN, 2003).

As computer use spread and more people became computer savvy, concerns about the potential destructive power of computer viruses grew. The late eighties and early nineties saw a continued rise in the number of viruses. The computer community continued to be concerned over how intricate many computer viruses were becoming. Public concern over these new types of viruses fueled several famous virus scares and hoaxes. Most notable among these scares were the DataCrime and Michelangelo viruses (EXN, 2003). The potential impact of these two viruses was overblown in part because of an uninformed public and in part due to an overzealous media.

Today, the term computer virus has evolved slightly. Where once it just described a piece of self replicating code, it now is an umbrella term used to categorize many harmful applications. The most prominent of these applications that exists in

today's society is the computer worm, which was again brought to fame by the mydoom virus (Sophos, 2004). If anything, within the last twenty years the world has been shown that computer viruses are here to stay. What the world is finding today is that there are several different groups that both write and hunt computer viruses. Recent evidence is pointing to a growing 'culture' of those who wish to create, spread or combat computer viruses. What remains to be seen is if this emerging culture is healthy or harmful to a world that is in the middle of its computer renaissance.

Traditionally, the image of one who creates and distributes computer viruses is not a positive one. Within the media those who write computer viruses are often portrayed as nerdy social outcasts with an axe to grind. This is a stereotype to be sure and while it might be partly true, for the most part it is an oversimplification. The virus creators of the late eighties were mostly researchers and students attempting to expand their understanding of the computer world. It was not until the theory of computer viruses became widely understood that the world saw a rise in damaging computer viruses. The early nineties was the decade that truly saw a rise in damaging viruses. The writers of these pieces of code would fit very nicely into the stereotype mentioned above. However, today many of those who create computer viruses have escaped from this stereotype.

Today, many of the people who write computer viruses are young adults in their early twenties. Their social lives are in direct opposition to the typical 'hacker' stereotype. Indeed, many recent writers can hardly be classified as a 'nerd' (Thompson, 2004). In another move away from the virus writers of the nineties, today's virus creator have less destructive ends in mind. In the words of one computer virus creator "Anyone can rewrite a hard drive with one or two lines of code. It's really lame. Besides which, it's mean and I like to be friendly" (Thompson, 2004). Modern virus writers prefer to learn from the code they create and then dispose of their creation. In this way, many of the world's most dangerous computer viruses never see the light of day. The viruses that are released typically come from teenagers who pull viruses off the internet and pawn them off as their own creation (Thompson, 2004).

As responsible members of society computer programmers can not simply write off the threat that computer viruses pose to the wired world. Many of the viruses that reach the 'wild' are extremely destructive and infectious. Two of the most recent virus scares, the SoBig.f and Mydoom.A computer worms, raced around the world causing billions of dollars in damage (Thompson, 2004). It is estimated that each month there are about 800 new viruses created (Manktelow, 2004).

There are two main reasons that these 800 viruses are not crippling the world wide computer network. First, many of the viruses created each month are mostly harmless (Thompson, 2004). These harmless viruses do not attack a computer; rather they spread some sort of message to each infected machine. No files are harmed or deleted by these viruses. The second reason for the lack of killer computer viruses is a world wide detection and prevention system that has appeared in recent years. One company, Sophos, operates computer virus research labs across the world. The benefit of this is that there is near continual monitoring of the internet for potentially destructive computer viruses (Manktelow, 2004). The work of the researchers at Sophos labs serves to protect much of the computer infrastructure of the world.

Certainly the history of computer viruses and the compute world is still too short to allow for any worthwhile predictions to be made. Recent history would suggest that the computer virus problem is one that will not go away. However, that is not to say that tomorrow the total solution to the computer virus problem will not be found. It could be that over time an uneasy equilibrium will be created between those who write computer viruses and those who work to prevent their spread. The work of the virus writers in Thompsons' article and the continued work of organizations such as Sophos would tend to suggest this scenario.

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