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An Analysis of Various Anti-Virus Software Tools Based On Different Effective Parameters

K. Durga Devi [1], Dr. K. Mohan Kumar [2]

Research Scholar [1], Research Guide & Head [2]

Department of Computer Science

Rajah Serfoji Government College, Thanjavur

Tamil Nadu – India

ABSTRACT

Today, safety of our data is a big question from various threats come from online and offline. The user should protect their valuable data from these threats using different antivirus software tools available in market. Before going to install an antivirus software tool, the user should know the performance, features, help and support given by the antivirus software tool providers. This analysis will help in this situation.

Keywords-: Threats, Cyber security, Virus, Hacking, Network and System scanning.

I. INTRODUCTION

Computer security is the protection of information systems from theft or damage to the hardware, and the software. It is also known as cyber security or IT security. It includes controlling physical access to the hardware. It is used as well as protecting against harm that may come via network access, data and code injection. Due to malpractice by operators, whether intentional, accidental, or due to them being into deviating from secure procedures. The field is of growing importance due to the increasing reliance on computer systems in most societies. Computer systems now include a very wide variety of "smart" devices. It includes smart phones, televisions and tiny devices as part of the Internet of Things – and networks include not only the Internet and private data networks, but also Bluetooth, Wi-Fi and other wireless networks. [1][2]

II. VIRUS

A computer virus is a small program written to alter the way a computer operates, without the permission or knowledge of the user. A virus must meet two criteria:

- It must execute itself. It will often place its own code in the path of execution of another program.
- It must replicate itself.

For example, it may replace other executable files with a copy of the virus infected file. Viruses can infect desktop computers and network servers alike. Some viruses are programmed to damage the computer by damaging programs, deleting files, or reformatting the hard disk. Others are not designed to do any damage, but simply to replicate themselves and make their presence known by presenting text, video, and audio messages. Even these benign viruses can create problems for the computer user. They typically take up computer memory used by legitimate programs. As a result, they often cause erratic behavior and can result in system crashes. In addition, many viruses are bug-ridden, and these bugs may lead to system crashes and data loss. [3][4][5]

III. ANTIVIRUS

The term "antivirus software" stems from the early days of computer viruses, in which programs were created to remove viruses and prevent them from spreading. However, over the years, different types of malicious software, often called malware, emerged as threats to personal and work computers worldwide. Although antivirus software evolved to combat new malware, the term "antivirus" stuck, even though the term antimalware is truer to the software's capabilities. To give we an idea of the different types of malware out there, we've identified

malware types that are potential threats to computer systems today. "Antivirus" is protective software designed to defend our computer against malicious software. Malicious software or Malware includes: viruses, Trojans, key loggers, hijackers, dialers, and other code that vandalizes or steals our computer contents. [6][7][8]

Antivirus software is the entry-level version of virus protection for our PC. All antivirus software tools to block or remove spyware, worms, root kits and other malware types. Rather, this particular set of virus protection software has fewer features than the two antivirus suites. This software does include the ability to scan incoming email for potential threats, automatically clean or quarantine infected files, and

create bootable rescue disks, to name a few of its many features. [9] [10]

This paper study the various antivirus software tools and give the best tool based on various parameters.

IV. MATERIALS AND METHODS

For this research work user feedback form is given to fifty users in various categories like students, employees and hardware service engineers in Thanjavur District. This questionnaire given to ten group of peoples, each group using a same antivirus software for their machines. They gave maximum 10 points for performance, features and help and support for their used software tools.

The following Table-1 shows the consolidated information received from the ten groups.

Group	Anti-Virus Name	Performance	Features	Help & Support
Group-1	Bitdefender	9	9	9
		8	9	8
		9	8	7
		8	8	8
		7	7	8
Average		8.2	8.2	8
Group-2	Kaspersky	9	8	9
		9	8	9
		8	9	8
		9	9	9
		9	8	9
Average		8.8	8.4	8.8
Group-3	McAfee	9	8	8
		8	9	8
		8	8	7

		8	7	7
		7	8	8
Average		8	8	7.6
Group-4	Avira	9	8	7
		8	8	7
		7	7	7
		8	8	7
		7	7	8
Average		7.8	7.6	7.2
Group-5	F-secure	6	8	7
		6	9	6
		7	7	8
		9	8	6
		8	6	7
Average		7.2	7.6	6.8
Group-6	Norton	8	9	7
		8	10	8
		9	9	7
		8	8	8
		9	9	7
Average		8.4	9	7.4
Group-7	Panda	8	7	6
		6	8	6
		8	7	7
		7	6	6
		6	8	6
Average		7	7.2	6.2
Group-8	TrendMicro	5	7	6

		6	7	8
		7	6	7
		6	7	6
		7	8	6
Average		6.2	7	6.6
Group-9	Bull guard	6	6	7
		7	6	5
		8	5	6
		7	6	7
		6	7	5
Average		6.8	6	6
Group-10	E-scan	7	8	8
		8	7	6
		6	7	7
		7	8	7
		8	7	7
Average		7.2	7.4	7

Table-1

V. RESULTS AND DISCUSSIONS

The following Table-2 is prepared using the values in Table-1.

Antivirus name	Performance	Features	Help & support	Overall	Cost
Bitdefender	8.2	8.2	8	8.2	2009.31
Kaspersky	8.8	8.4	8.8	8.7	4024.66
McAfee	8	8	7.6	7.9	4024.66
Avira	7.8	7.6	7.2	7.5	2682.89
Norton	8.4	9	7.4	8.3	3353.78
F-secure	7.2	7.6	6.8	7.2	2682.89
Panda	7	7.2	6.2	6..8	2360.86

TrendMicro	6.2	7	6.6	6.6	2344.76
Bull guard	6.8	6	6	6.3	1205.59
E-scan	7.2	7.4	7	7.2	2009.31

Table-1

The following Figure-2 is the graphical representation of performance detail in Table-2.

Figure -2

Based on the performance rating Kaspersky is the best antivirus software tool because of its online security, offline security and speed.

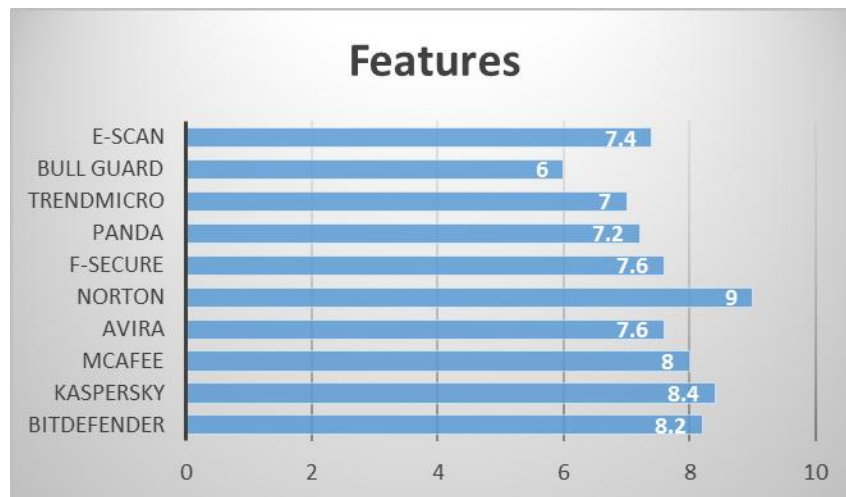The following Figure-3 is the graphical representation of features detail in Table-2.

Figure-3

Based on the analysis of users rating Norton is the best antivirus software tool because of its features.

The following Figure-4 is the graphical representation of Help & Support detail in Table-2.
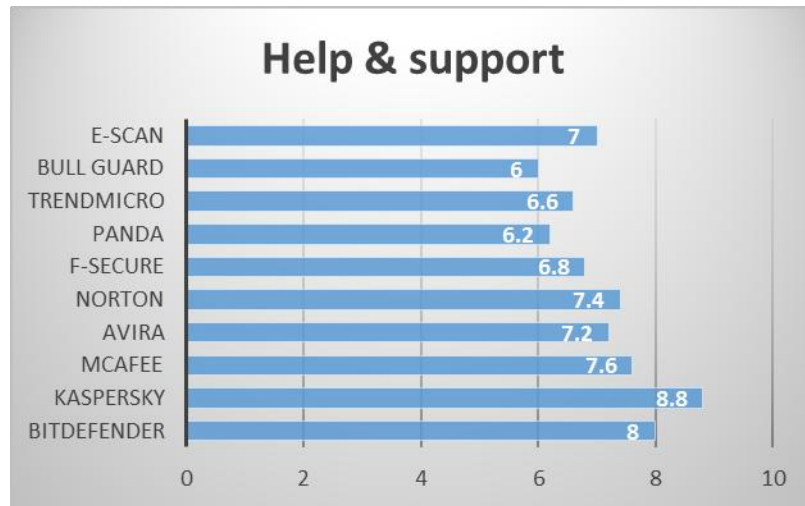

Figure-4

Based on the analysis of help and support rating Kaspersky is the best antivirus tool.

The following Figure-5 is the graphical representation of overall detail in Table-2.
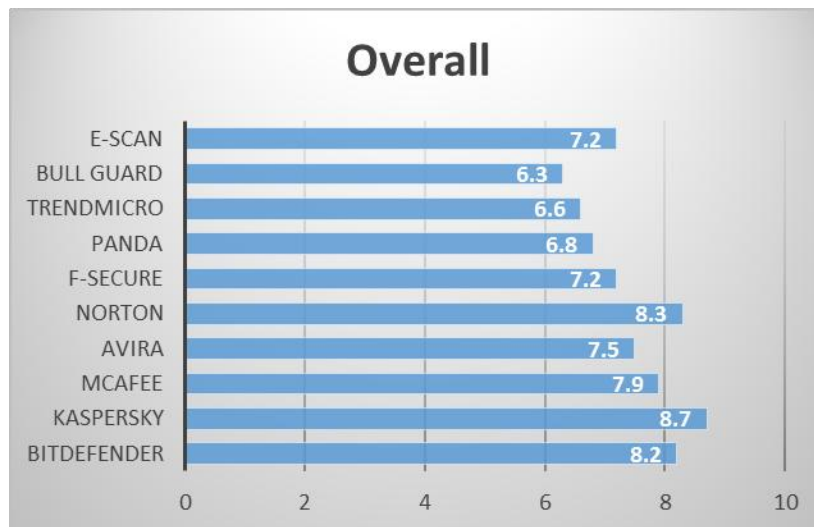

Figure-5

Based on the overall rating Kaspersky is the best antivirus software tool because of its performance, features, help and support. It blends a stunning performance in online security, offline security and speed.

If the user, consider the cost and other factors Norton antivirus software is the best tool. Based on easy availability and overall rating Kaspersky is a best antivirus software tool.

VI. CONCLUSION

Most antivirus software options include similar basic features such as scheduled scan, email security, antispyware tools and USB drive scans. In this analysis performance wise Kaspersky is the best, features wise Norton is the best and help and support wise Kaspersky is the best antivirus tools. In overall ratting Kaspersky is the best antivirus software tool because of its stunning performance, useful features, responsive support and a gratifying user experience.

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