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*BSc (Hons) Computing
Academic Year 2012-2013
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Forensics & Security:
School Teacher Jailed Over Child Porn Images*

1. Present Situation

On the 15th March 2013 former assistant head teacher at a private school in Suffolk, William Stansbury was jailed for 16 months over child porn images admitting to five offenses. Stansbury was first arrested back in August 2012 after it came to knowledge that he had over 40,000 indecent images and videos of children. During the inquiry he then resigned from his teaching post at Ipswich school and was granted bail until the 11th February 2013 on the condition that he must reside in Ferndown, inform the police of any change of address and not teach or coach anybody under the age of 18. (BBC News, 2013; Ipswich Star, 2013; the Independent, 2013)

When the police raided his home in Ipswich last August a laptop, a desktop computer and a number of external hard drives were all seized. After a team of digital forensic analysts had thoroughly processed all the evidence it was then understood that Stansbury had been downloading the indecent material for the past 7 years. The seized items contained around 40,000 images at level one which is the lowest level of child pornography. 1,700 images at level two, 170 images at level three, a mixture of 800 images and videos at level four, and 12 images at level 5 which is the most serious, disturbing category. (BBC News, 2013; Ipswich Star, 2013; the Independent, 2013)

The majority of the children pictured in the indecent material were between the ages of 10 and 14, and although Stansbury had previously toured with students from the choir group and was one of the schools hockey coaches, it was confirmed that no Ipswich school student were involved. Most of the images found were duplicates so it was probable that he had downloaded the majority of the images. (BBC News, 2013; Ipswich Star, 2013; the Independent, 2013)

2. Implications

If the situation was to continue it would not only have a negative impact on the private school in Suffolk which costs around £4,000 per term for tuition fees alone. (Ipswich Suffolk School, 2009) But it might also make the situation escalate, as being addicted to child pornography is part of the profile of a child molester. (Survivors and friends, 2003) Stansbury said in his interview after his arrest “In a sense you are never satisfied with what you have got.” (EADT24, 2013)

(Survivors and friends, 2003) states “I don't think someone can continue to look at these pictures, getting sexual pleasure from them forever and be satisfied. They are going to want more...it'll take more to give them the same sexual thrill. So when the opportunity rises, a child is there and this person is aroused, he/she will act on those urges.” Although Stansbury didn't physically touch a child he clearly breached the laws and regulations of the UK government as well as the policies the school has in place.

“One of the most disgusting and serious crime on the cyberspace is child pornography. Individuals and webmasters with their sick mind continue to propagate the filth over the cyberspace by exploiting underage user. This is considering as one of the most lucrative business over the web. Cheaper and easily accessible digital technology can produce and disseminates images of child abuse to hundreds of thousands of individuals with a click of a mouse. The sender and the recipient of these images can be anonymous; as a result child pornography is easily available over cyberspace. Google engineers have recently developed software to help track child pornography.” (Hussain, Rashid, 2011)

Stansbury went against the *Protection of Children Act 1978* which “defines as offences, roughly: To take or make any indecent photograph or pseudo-photograph of a child; To show or distribute such

(pseudo-)photographs; To possess such (pseudo-)photographs with intent to show or distribute them; To advertise for showing or distributing such (pseudo-)photographs.” (Wikipedia, 2013)

He also defied the *Criminal Justice and Immigration Act 2008* which “creates a new offence of possessing an extreme pornographic image. An image is deemed to be extreme if it is grossly offensive, disgusting or otherwise of an obscene character and it portrays, in an explicit and realistic way, any of the following— (a) an act which threatens a person’s life, (b) an act which results, or is likely to result, in serious injury to a person’s anus, breasts or genitals, (c) an act which involves sexual interference with a human corpse, or (d) a person performing an act of intercourse or oral sex with an animal (whether dead or alive), and a reasonable person looking at the image would think that any such person or animal was real. Where (a) or (b) apply, the maximum sentence is 3 years; otherwise the maximum is 2 years. Those sentenced to at least two years will be placed on the Violent and Sex Offender Register.” (Wikipedia, 2013)

“In many courts, lascivious exhibition is further defined based on six factors: Whether the genital and/or pubic area are the focal, whether the setting of the image is sexually suggestive, whether the child is depicted in an unnatural pose or inappropriate attire considering her or his age, whether the child is fully or partially clothed or nude, whether the image suggests sexual coyness or willingness to engage in sexual activity, and whether the image is intended or designed to elicit a sexual response in the viewer. “ (Computer & Internet Lawyer, 2009)

3. Recommendations

“We have moved beyond computer forensics and into the age of digital forensics,” says James Robertson, a professorial fellow and director of The National Centre for Forensic Studies at the University of Canberra. “There is a growing array of software and hardware tools used to record what people are doing and where they are doing it.” (Greengard, Samuel, 2012)

After confiscating the laptop, desktop computer and external hard drives it was important to process the evidence correctly in order for it to be used as valid evidence in court. The first task was to photograph the confiscated items and make a note of the make, model and serial numbers, this is important in order to determine where the evidence has come from. (Albert Marcella et al, 2002)

“An in-depth analysis of the digital evidence is performed. Software tools are used to reveal hidden, deleted, swapped and corrupted files that were used including the dates, duration, log file etc. Low-level time lining is performed to trace a user’s activities and identity. “(Ankit Agarwal, Megha Gupta, Saurabh Gupta & Prof. (Dr.) S.C, 2011)

Secondly the forensic image is to be created, this is used in order to analyse evidence without modifying the original evidence. By modifying original evidence it cannot then be determined whether the evidence that has been found is legit and therefore the evidence becomes void and cannot be used in court. (Lab book, 2012/13)

Before creating the forensic image, it is essential that a write-blocking device is in place, in order to stop any alterations on the attached drive making it write protected. In this case, a physical write blocker was used, physical write blockers sit between the evidence and the computer in order to capture the requests of modification of the data, and this then prevents it from reaching the disc. The write blocker used on this case was FastBloc which is one of the best write blockers in terms of reliability. This particular write blocker is easy to use simply by connecting a singular cable; a mounting plate was also secured onto the bottom of the drive in order to add more security. (Lab book, 2012/13)

The next step of the investigation was to create the forensic image; the software used to do this was FTK Imager. FTK Imager allowed us to create an identical image; a bit-by-bit copy in which we could work from, we could then read the contents of the hard drive by using the viewer panel. FTK is also a useful tool as it “provides a database to preserve large amount of cyberspace forensic data.” (Hussain, Rashid. 2011) Once the image had been created the confiscated items was then labelled, sealed and securely stored and checks were put in place to ensure that the evidence was stored in a secure climate controlled environment and not exposed to any elements that may damage or destroy it. Access to evidence was then made restricted and was clearly documented, and controls were put in place to detect any unauthorised access. (Marcella, Albert J.; Guillosoou, 2012)

It is also important to check the recycle bin for deleted files, because although the files may have been deleted and the recycle bin may have been emptied, the files are still on the hard drive and any forensic analyst with the correct tools can access these files. Every user has their own individual recycle bin, this can usually be located in the following folder ‘\Recycler\%SID%’ the SID is the security identifier of the current user. When a file is sent to the recycle bin it is renamed using the following convention ‘D%DriveLetter%_%IndexNumber%_%FileExtension%’ and can be traced using the INFO2 file header. By accessing the SID folder in the recycle bin it means that Stansbury’s deleted files will all appear with their new name, and an INFO2 file. (Lab book, 2012/13)

The files found on the seized items was the evidence in which was used to build the case against Stansbury, so it was important that everything was checked thoroughly, for example criminals tend to hide their data by masking files. It was important to check the file signatures on each file to ensure the file was what is said it was, as it is easy enough for someone to rename a .jpg file to a .txt in order for it not to open. (Lab book, 2012/13)

In order to be sure the evidence was not tampered with after or during processing, it was important to make a note of the MD5 hash algorithm, this can be performed on a string of text, electronic file or the contents of an entire hard drive. The hash signature was created using the HashCalc tool. (Lab book, 2012/13)

The forensic tool used to analyse the image was EnCase which is the main forensic tool available to examiners, for this case v6.19.1 and v7.01 was used. “EnCase provides a unique forensic image file format that allows for verification of the data to occur as part of the process rather than separate, as is the case in RAW image files.” (Lab book, 2012/13) EnCase is widely recognized by the law enforcement agencies and courts for capturing, analysis and preservation of forensic evidence and it has been used in a number of successful cyber crimes including child pornography cases which is why this was the perfect tool to use on this case. (Hussain, Rashid, 2011)

4. Implementation

The research took place in order to prove to the court of law that William Stansbury was taking part in illegal activities online, in this case he had downloaded over 40,000 indecent images and videos of children. There were a number of methods used to prove Stansbury was guilty all of which included using specialist forensic software in order to protect the original evidence. Although forensic experts were necessary in order to prove Stansbury guilty of the crime he had committed, it did work out a very costly process with forensic analysts charging around £29 per hour, making that £232 per day. It would be recommended that Stansbury should be monitored at all times when accessing the web, during and after his sentence, however the court did not suggest this. The court found the evidence found to be viable and Stansbury was not only sentenced to 16 months in prison but his “computers will be destroyed; he was banned from working with children and has been made the subject of a sexual offences prevention order lasting 10 years.” (Sky News, 2013)

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