

FRAUDULENT ACTIVITIES USING VIRTUAL MEETINGS

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ABSTRACT

This paper investigates fraudulent and illegal activities that take place through virtual meeting systems. The first section gives an introduction to the problem. Section two describes some cases of fraudulent activity using virtual meeting systems. Section three explores some means of capturing such fraudulent activities so that criminals can be brought to justice. Section four provides a solution for capturing virtual meeting conversations in a way that could be admissible in court. Section five discusses tell-tale signs that indicates that a conversation maybe fraudulent. Section six discusses Artificial Intelligence (AI) techniques that might be used to detect virtual meeting crime. Section seven discusses the conclusion to the paper.

1. INTRODUCTION

A ‘virtual meeting’, which is commonly used in a number of countries in the world uses communication technology to enable the exchange of information and opinions between parties that are not in the same location. Based on these characteristics, it is used for meetings involving parties who may be familiar or unfamiliar with each other. As such, for virtual meetings that need to pick up facial expressions and body language, a video conferencing system will be needed. The video conferencing platform generally permits sharing of documents, in addition to the voice and video image (Express virtual meetings 2012).

The wide usage of virtual meeting systems (for example, Skype) is evident in Nigeria and this has both the positive and negative impact on its users and on Nigerian society as a whole (HealthGuidance 2012).

The positive impact of Skype can be felt from the features it has such as free video calling, calling of phones and mobiles at a very cheap rate, and the instant messaging capabilities that are incorporated in Skype (Skype 2012). Even though, Skype has this positive impact on its users as described in the above sentence, internet fraudster (the so called “419”) use the virtual meeting system to carry out fraudulent activities in order to exploit people’s ignorance, cheat people or carry out illegal activities both in Nigeria and abroad (AfricanIndependence.com 2007-2012).

According to the Balancing act (2012), Nigeria is rated the most internet fraudulent country in Africa and is ranked third among others identified with cyber fraud and computer crime in the world (Balancing Act 2012). Even though, the rate of cyber fraud in Nigeria is very high, the number of internet users are not much as can be seen in Table 1.1 which refers to Internet users, country population data and percentage of population that use the internet.

Country	Internet Users	Country Population	Year	Percentage of Population that use the internet
United States	243,542,822	308,282,053	2010	79%
United Kingdom	52,996,180	62,348,447	2010	85%
Nigeria	45,944,229	161,604,744	2010	28.43%

Table 1.1. Internet users, country population data and percentage of population that use the internet

(International Telecommunication Union 2000-2010) & (United States Census Bureau 2012)

As can be seen in Table 1.1, as of 2010, 79 percent of the United States' population was already using the internet, 85 percent of the United Kingdom population was using the internet and only 28.43 percent of the Nigeria population was using the internet. Furthermore, the percentages of cybercrime carried out in the world as of 2010 shows that, the United States tops the world cybercrime ranking with 65 per cent, followed by United Kingdom which has 9.9 per cent and Nigeria with 8 per cent (African news 2011).

Hence, based on this statistics presented above concerning the percentage of internet users in these countries and the percentages of cybercrime carried out in the world, it clearly shows that if Nigerian population of internet users grows as high as these other countries, then the percentage of cybercrime in Nigeria would increase in substantially proportion if no preventive or regulatory measures are explored.

Based on this alarming observation, in recent years the law enforcement agencies such as Economic and Financial Crime Commission (EFCC), Independent Corrupt Practice and other related offences Commission (ICPC), State Security Service (SSS), the Nigeria Police (particularly the Force Criminal Investigation Department (FCID)) among others have been playing prominent roles in fighting against the new trend of social vice (Balancing Act 2012).

Due to the fact that these law enforcement agencies are doing their best to fight against cybercrimes, a preventive measure which can be considered by these agencies is closely linked to monitoring the internet browsing history and log files of the conversation between the communicating parties which can be kept for further analysis. Unfortunately however, the internet browsing history and log files can easily be overwritten in most cases. Thus erasing substantial and tangible evidence of fraudulent conversations or acts been carried out by a particular person or group of persons while communicating.

The lack of evidence in many instances has inspired a better approach in which conversations can be captured using automated capturing software, which can serve as evidence to support or refute allegation in the court of law.

Evidence captured by a computer or other devices, if not tampered with can be admissible in the court of law both in the UK and Nigeria. According to Bainbridge (2008:490), evidence that is automatically recorded by a computer or other device or machine without further human intervention, is referred to as real evidence and is generally admissible in the UK court. Examples of such evidence include images recorded by CCTV, and the time and date stamp on an email.

This is not an exception in Nigeria; as section 84 of the Evidence Act 2011 provides that a statement contained in a document produced via a computer, which statement is relevant to the facts in issue is admissible as evidence in the court. Section 258(1) (d) of the Act further describes a document for the purpose of legal alert to include "any device by means of which information is recorded, stored or retrievable including computer output" (EVIDENCE ACT 2011).

The above statement clearly shows that captured evidence from automated software if not tampered with, will be admissible in the court of law both in the UK and Nigeria. In order to prove that the evidence is not tampered with, a hash value of the evidence is very important to show that the evidence has not changed before and after the analysis (Bird 2012).

2. CASES OF FRAUDULENT ACTIVITIES USING VIRTUAL MEETING SYSTEMS

Skype had about 196 million registered users as of 2007 (NETWORKWORLD 1997) and according to PCWorld (2009), Skype users increase everyday by 380,000 users. People involve in conversations of various kinds including good and bad using the Skype. The author has considered some cases of crimes committed on Skype as can be seen below.

Silent witnesses

Many crimes are now being enabled and witnessed by virtual meeting systems, especially Skype, as it has such high and widespread worldwide usage. The author has considered some of those cases as can be seen below.

In January 2012, the BBC in an article 'Why Crimes on Skype leave witnesses but no evidence' reported that a woman was in Norway custody accused of murdering her child in October 2010 while her boyfriend allegedly watched on Skype in the UK. The Norwegian paramedics found the 20- month-old girl whose mother said she had accidentally fallen into a bucket of water dead the following day.

However, a year later the Mother changed her story and said the boyfriend (Ammaz Qureshi) had said holding the child underwater was a good way of disciplining her. But when asked by the Prosecutor Kristin Rusdal, Qureshi confirmed that he witnessed it on Skype but had not instructed her to do so.

According to the prosecutor (Kristin Rusdal);

"it is so unfortunate that there is no record of what happened on Skype, no footage. There is no record of the text between them that night, however there is, from other occasions" (BBC 2012).

A case was also recorded on April 2011 of a 23-year-old Qian Liu, a university student in Canada, who was chatting with a friend in China on a video link. A knock at the door made her to step away from the webcam and open the door. The friend watched on the webcam as a man lunged towards her and began struggling. She was found half naked dead after some few hours.



Figure 2.1. Qian Liu was attacked while talking to a friend in China on a video link (BBC 2012)

Incidents such as this continue to emphasise the need for improved communication networks between countries in a way that it can serve as evidence to crimes on Skype.

According to Mr Geddes, Skype would not be expected to record conversations as it is just a piece of software. Although recent development reports that people can now record Skype calls, but this will require the purchase of add-on software. Beyond one-on-one Skype calls recording capabilities, this software can be used for business purposes, or to record family calls for people who can't be there themselves at the time the call was made. Medical professionals can also record their discussions with patients and colleagues to protect themselves in case of litigation (BBC 2012).

According to BBC (2012), most cases witnessed on Skype as with any webcam system, often lacks video evidence to back it up. Thus a lack of forensic trail.

Skype and organised crime/Dating Scams

A lot of organised crime (including arms and drugs trafficking, human trafficking and prostitution) is being committed using Skype in Italy. Due to the direct social impact of this, other countries such as India, China and Saudi Arabia have been threatening to close down Skype services (BBC 2012).

This crimes are not only experienced in the countries mentioned above, as this is also experienced in Russia.

A report from Russian detectives states that Russian women are carrying out scams using different approaches to include email, Skype, and facebook.

As such, the Russian detectives have seriously warned about romance scams and have clearly stated that the Russian girls are very beautiful and most times people feel just communicating with them alone would not cause any harm.

Unfortunately, internet criminals can steal someone's personal data, or might even install a computer virus to steal someone's passport and identity, and soon the person's bank account is drained (A Hathaway 2012). This is possible because it was reported that robo-calls on Skype suggests to users that their computers are infected and they can get the removal of these security threats by directing victims to visit certain websites or to download some malicious software (FriedMan IT Solutions 2011). Sometimes, this services are paid with some credit card information and this could just be the first charge, in that the thieves utilise the credit card information acquired fraudulently for other purposes until it is maxed out (The Consumer Chronicle 2011).

They (Russian detectives) went ahead to stress that Russian criminals are creative, and even the most cautious of internet users can find themselves the victim of a scam.

However, the most targeted victims are citizens and companies based in Canada, the U.K., Australia and U.S. Lastly, a warning was given by Russian detectives that individuals should guard their personal data and never send payments or personal data to any individual or company overseas (A Hathaway 2012).

Another case was reported on 'Ghana Dating Scam' (2012), that on 20th March, 2012, a lady named Ramatu Muntala (who claimed she was from Ghana) had been in touch with someone in the UK (name withheld) for about four months on Skype, claiming that her late Father had left Gold in storage.

She requested her male contact in the UK help her to sell the Gold, and afterwards she would get married to him. In addition to this, she also requested that he should make a payment for the Gold to be shipped to the UK so he could sell it there. In a bid to convince him further, she sent some forged International passport and a change of ownership letter from the High Court of Justice, which on confirmation showed all the documents were fake and she was a scammer. Below is a copy of the forged passport and change of ownership letter from the High Court of Justice.



Figure 2.2. Forged International Passport from a Scammer (Ghana Dating Scam 2012)



Figure 2.3. Forged Change of Ownership from the High Court of Justice (Ghana Dating Scam 2012)

Focus on Nigeria

A critical look at Nigeria shows that people commit crimes or illegal activities using the computer every day. Nigerian's have been prolific in cybercrimes, especially in cases involving sending emails, claiming to be of particular financial assistance or business connection, with the aim of cheating the targeted person. According to Future Intelligence (2006) the Nigerian Fraud gang 419 has discovered Skype, because they noted that a high percentage of people, including small business firms, were using it because of its free services.

Before this it was observed that the advanced fraud fee involved sending unsolicited emails, letters or fax to the targeted individuals and requesting whether they could be of help for transferring the funds to their bank accounts which involved millions of pounds from a foreign bank.

A reply could lead to a call from the criminals requesting for a processing fee of some certain amount of pounds before the process could be completed and promising to offer a percentage usually about 40% of the money on completion of the process.

However, the crime gang now have picked up a direct contact with the intended victims making it more real through virtual meetings to include Skype, Google, Yahoo and MSN (Future Intelligence 2006).

The internet fraudsters ("so-called 419 or Yahoo Boys") use different means to carry out illegal activities as this is costing the Nigerian Government, the citizens and it is also creating a bad image to foreign countries. According to AfricanIndependence.com (2007-2012), the scammers go as far as forging international passports and sending photo shopped pictures to victim's Skype addresses, so that they can convince them more.

The Commonwealth Telecommunications Organisation (CTO) recently stated that there is an annual economic loss of about \$200m accrued by the country (Nigeria) due to cybercrimes (IT News AFRICA 2012).

It has also been reported that the Ghana – Nigeria scam is now on Skype.

Gunnar Engblom reported on a blog (A birding blog 2009) to have received an instant message from a 'Dr. Allen William' through Skype, attempting to carry out a scam as can be seen in the message below:

"Dear Engblom,

I have been in search of someone with this last name Engblom, so when I saw your name I was pushed to contact you and see how best we can assist each other. I am Dr. Allen William, I am the regional manager of United Bank for Africa GHANA (UBA). I believe it is the wish of God for me to come across you on Skype now. I am having an important business discussion I wish to share with you which I believe will interest you because, it is in connection with your last name and you are going to benefit from it.

One Late Shafi Engblom, a citizen of your country had a fixed deposit with my bank in 2004 for 36 calendar months, valued at US\$18,400,000.00 (Eighteen Million, Four Hundred Thousand US Dollars) the due date for this deposit contract was this 16 of January 2007.

Sadly Shafi was among the death victims in the May 26 2006 Earthquake disaster in Jawa, Indonesia that killed over 5,000 people. He was in Indonesia on a business trip and that was how he met his end.

My bank management is yet to know about his death, I knew about it because he was my friend and I am his account officer. Shafi did not mention any Next of Kin/ Heir when the account was opened, and Shafi was not married and no children. Last week my Bank Management requested that I should give instructions on what to do about his funds, if to renew the contract.

I know this will happen and that is why I have been looking for a means to handle the situation, because if my Bank Directors happens to know that Shafi is dead and do not have any Heir, they will take the funds for their personal use, so I don't want such to happen. That was why when I saw your last name I was happy and I am now seeking your co-operation to present you as Next of Kin/ Heir to the account, since you have the same last name with him and my bank headquarters will release the account to you. There is no risk involved; the transaction will be executed under a legitimate arrangement that will protect you from any breach of law.

It is better that we claim the money, than allowing the Bank Directors to take it, they are rich already. I am not a greedy person, so I am suggesting we share the funds, 50/40% to both parties, and 10% for Expenses, my share will assist me to start my own company which has been my dream. Let me know your mind on this and please do treat this information as TOP SECRET. We shall go over the details once I receive your urgent response strictly through my personal email address. allenwilliam.gh2009@gmail.com

We can as well discuss this on phone; let me know when you will be available to speak with me on phone. Have a nice day and God bless.

Anticipating your communication.

Dr. Allen William" (A birding blog 2009).

BetterNetworker.com (2007-2012) also reported that this Classic email scam is now active on Skype and below is a sample of such:

Randy Enman aka Trailblazer reported that he was minding his business last night, when he saw a pop Skype chat from Mrs. Vivian Salife. The screen shot below shows a detailed of the conversation.



Figure 2.4.Skype Conversation between Randy Enman and Mrs. Vivian Salife
(BetterNetworker.com 2007-2012)

He didn't recognise the name, but thought he had met nice people over the internet this way before, so he humoured her and responded.

A further discussion with the lady revealed that she has a 'project' that she wants to disclose to him and warned that he should keep it to himself; he later discovered that the project was concerning money transaction and he will get 40% as gratification for his assistance. This clearly showed it was a scam but fortunately Mr. Enman discovered in time and didn't fall a victim of the situation (BetterNetworker.com 2007-2012).

The above cases are just few out of the several unrecorded cases that people are using both in Nigeria and other parts of the world to carry out illegal activities on Skype, claiming either to be from European countries or some other African countries and suggesting to partner in a business, with the aim of cheating the targeted individual.

This really prompted the researcher of a need to use Camtasia Studio 7 that captures all conversations during Skype sessions, thus can be used as a good trail for forensic investigators and particularly FCID in Nigeria.

3. EXPLORATION OF CAPTURE METHODS

Several programs (software) are used for capturing events that take place on the screen of a system. Some of these programs are free while others are for commercial purposes. To further explain this, the researcher has listed some of these programs in this section and given a description of how they operate as can be seen below:

ActivePresenter: as a program is a "quick and dirty" advanced screen casting software for screen casting professionals. It is also a rapid e-learning authoring tool for e-learning content developers. It comes in both the proprietary commercial version and freeware version (Atomi Systems 2009-2011).

BSR Screen Recorder: A window based screen recording program. It has options where the user specifies which part of the screen or window will be recorded as video, and from which source the audio will be captured. It can produce the video in various formats to include Audio Video Interleaved (AVI), Flash, Windows Media Video (WMV) or Executable (EXE) formats (bsrsoft 2000-2011).

Camtasia Studio 7: A screen video capturing software published by Techsmith, allowing the user to define the area of the screen or window that is to be captured, which is usually set before the recording begins. It can be used to record power point presentations, websites, webcams, and software demos, edit screen casts and produce videos in different formats (TechSmith 1995 - 2012).

Replay Telerecorder for Skype: Developed specifically to record Skype conversations. Before recording the Skype conversations, the user might adjust Skype settings to get the best possible video/audio quality. The Replay Telerecorder for Skype records up to 2 minutes per call in demo mode. If a user needs to record conversations for longer time, then the user must purchase the product (Skype 2012).

recordMydesktop: A desktop session recorder for GNU/Linux which is easy to use, yet very effective at its primary task (SOURCEFORGE.NET n.d.).

Wikipedia (2012), compares by specification and features details of some screen casting software, with seven fields as can be seen below:

- ❖ **Name:** The Name field describes the product's name
- ❖ **Audio:** The Audio field, explains whether the software has the capability to record audio conversations on the video
- ❖ **Entire desktop:** The Entire desktop field, shows whether the software has the capability to record the entire desktop
- ❖ **OpenGL:** The OpenGL field, explains whether the software has the capability to track record from software or video games that employ OpenGL to render digital image
- ❖ **DirectX:** This field explains whether the software has the capability to track record from the software or video games that can employ an assembly of application programming interfaces for dealing with multimedia jobs, but focuses more on direct three-dimensional, in rendering a digital image.
- ❖ **Editing:** This field explains whether the software has the capability to edit video that has been recorded.
- ❖ **Output:** The output field explains the file format, in which the final video is saved by the software (Wikipedia 2012).

A critical look at the comparison shows that Camtasia Studio supports both Windows and Mac Operating System (OS) and has the capability to support the features described above such as Audio, Entire desktop, OpenGL, DirectX, Editing, and Output.

Figure 3.1 shows the relevant features of Camtasia Studio 7.

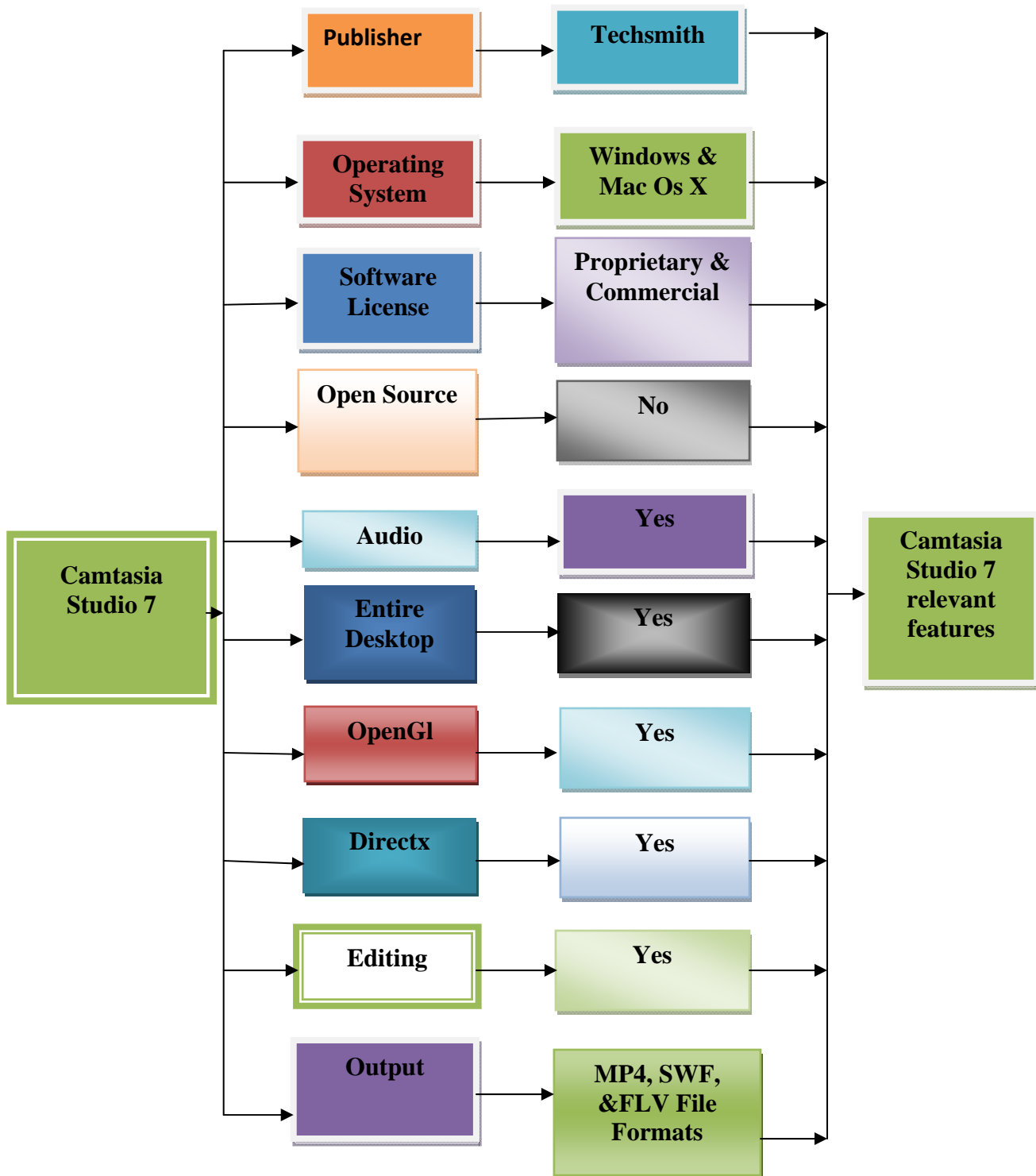


Figure 3.1. Camtasia Studio 7 Features

Based on the comparisons presented and the features that Camtasia Studio 7 has, the author used Camtasia Studio 7 to capture the conversations on Skype.

4. SOLUTION FOR CAPTURING VIRTUAL MEETING CONVERSATIONS

4.1 Method of Implementation

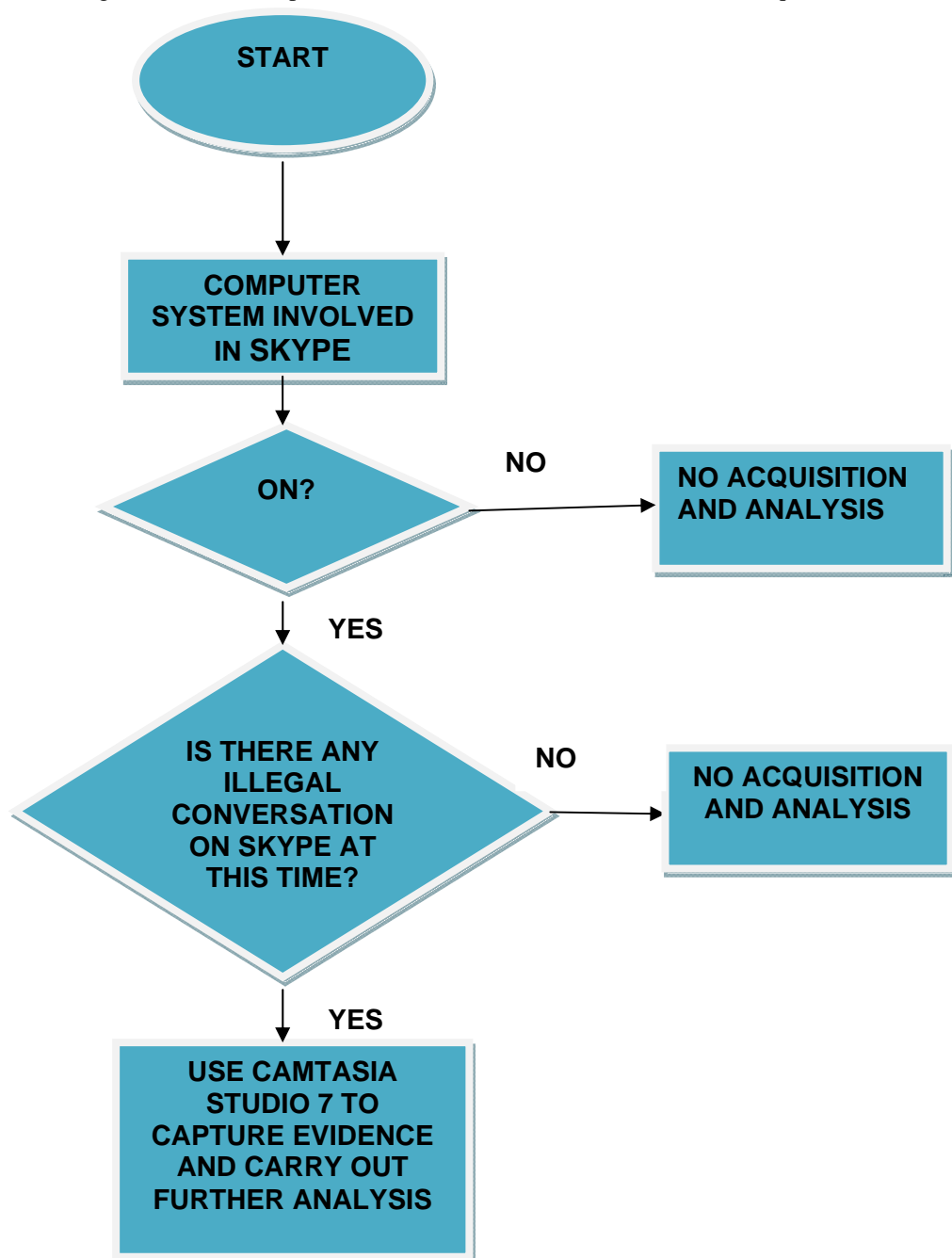
There are essentially two methods of analysis in forensics- Live or Dead Forensics. The author has used Live Forensics for this research.

4.2 Justification for Choosing Live Acquisition

The author decided to carry out live acquisition of data because the data involved in this research is volatile and very crucial to the investigation and can be lost if the plug is pulled from the computer system or battery removed on a laptop, as carried out in dead forensics. Skype conversations involving typed text, the faces of the persons involved, the voice, and date and time of conversation may be lost, if not captured when the communication is carried out. Although internet browsing history, chat logs and other details of the conversation are present in some cases, and can be a very good source of evidence, in most cases they might be lost or overwritten either intentionally or accidentally. Additionally considering the fact that capturing this volatile data was done on the victim system, and not on the offender system, to really prove that the offender was the one involved in the conversation, it is wiser to depend on the captured evidence using Camtasia Studio 7 which can be played anytime and watched, rather than depending on internet browser history or chat logs.

In respect of the above justification, the author designed a method for implementing a live forensics.

Below is a flow chart showing the method of implementation followed in order to achieve the required results:



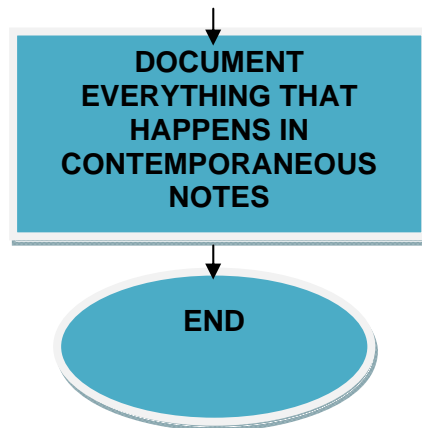


Figure 4.1. Showing the Method of Acquisition and Analysis for General Users and Professionals (such as FCID).

Figure 4.1 has features both for professionals like the FCID and an ordinary user that would want to follow the guide in capturing evidence on virtual meetings. For the FCID, all the steps should be followed to achieve the required results, for an ordinary user, who might not have the skills to carry out the analysis on the captured evidence, and might not be able to record everything that happened in Contemporaneous notes, they can only use the Camtasia Studio 7 to capture the evidence and then hand it to forensic experts, which will carry out further analysis and record details of the steps they took from when the evidence was handed to them.

To further defend the reason while ordinary users must not follow all the steps as described in Figure 4.1, it is an established fact that captured evidence on CCTV video footage concerning an incidence can be admissible in the court of law if the evidence is not intentionally or unintentionally destroyed (SoleraTec 2010). CCTV captured evidence can be played, watched and deductions can be made from what happened during an incidence, Camtasia Studio 7 captured evidence is no different. In respect of this argument, it is clear that an ordinary user that captures the conversation without analysing and writing down every detail of what took place, but does not tamper with the evidence, does not make the evidence inadmissible in the court of law.

4.3 Implementing Live Acquisition and Analysis

A conversation was set up on two Skype systems and the two involved parties carried out a script conversation using Skype in the first phase of the experiment (phase 1). The second phase of the experiment (phase 2), involved five pairs of people (ten persons) that were involved in a conversation on Skype, which was captured. The conversations were fictitious to enable the researcher to gather information of relevance.

The author ensured that all information gathered about the individuals involved in the communication on Skype system was well protected. Besides participation was on voluntary basis, and they were given the opportunity to withdraw from the study anytime they wanted.

In undertaking the research process, a due diligence to underpin ethical issues pertaining to the study was observed to include the use of informed consent, and maintaining confidentiality throughout the research process..

Camtasia Studio 7 was started immediately when the conversations on the Skype system began in both phase 1 and phase 2 of the experiment. The Camtasia Studio 7 recorded in detail the face, typed text, voice of communication and the date and time the conversations were carried out.

AccessData FTK imager was used to get the hash value of the evidence collected by Camtasia Studio 7 in both phases of the experiment in order to show that the integrity of the evidence was maintained throughout the process.

The captured evidence from Camtasia Studio 7 clearly showed all relevant information needed to prove whether a person was guilty or not.

A Contemporaneous note showing the details of actions taken, why they were taken and the probable findings by the researcher was written down using the CaseNotes software.

The author chose Camtasia Studio 7 for capturing the evidence because of the following reasons:

- It is one of the best screen casting tools to use because it is available for both windows and MAC computers and hence it is not platform dependent.
- It is user friendly and simple to use as opposed to most screen casting tools. This is of great advantage because the intended users, particularly FCID, will not need to undergo serious training before knowing how to use it.

- By using Camtasia Studio, the users don't need to worry about video size, dimensions, or output format of the video and audio.
- The quality of the video after rendering will not be lost when evidence is captured using Camtasia Studio.
- Camtasia Studio usually offers easy editing capabilities in a timeline and storyboard view.
- It has the capability of power point integration which is usually of great advantage when used in presentations for seminars, lectures etc.
- It supports a wide variety of media formats for audio, video as well as image formats and can add all the three of them in different combination to produce a desired output. This is unlike some screen casting tools which support only video, while some support both video and audio editing, but it is very difficult for a screen casting software to have this three capabilities at the same time, making Camtasia Studio very unique.
- It has the capability of batch production, which renders multiple screen cast parallel.
- Camtasia Studio has the capability of multi-track recording, which allows the users to record multiple clips one by one and combine them to produce a single output.
- It has the capability of easy Import and Export and this is useful when users have a distance friend or project member, they can easily export the project as a zip file and send it to anyone (webmaster 2011).
- Camtasia Studio 7 has the capability to record any conversation that has taken place. This means it can capture conversations not only on Skype but any other virtual meeting system.
- Camtasia Studio 7 was also chosen for this research as against other tools like Replay Telerecorder for Skype because considering their trial versions, Camtasia Studio 7 can record conversations as long as possible, where as the replay Telerecorder provided by Skype can record conversations just for two minutes. This makes Camtasia Studio 7 better for this research.

Although internet history, chat logs and various other properties which can be recovered might serve as evidence, this can be lost either intentionally or unintentionally. In contrast, Camtasia Studio 7 can record details about the communication which can be presented in the court of law as real or physical evidence.

5. SIGNS THAT INDICATE A CONVERSATION MIGHT BE FRAUDULENT

Below is a guideline for internet users who might become victims due to illegal conversations on virtual meeting systems.

- Observe the eye contact of the person you have engaged into a conversation with, if the person tends not to have a direct eye contact with you, that should alert you that something might be wrong.
- Observe the pitch of his voice and if it changes more often than normal, then you need to be careful.
- Observe the body language of the person to include bringing their hand to their face to touch either their nose or chin, fidgets with their hands, tapping of their foot a lot, and if there is increased blinking of the eye, there might be a suspicious activity happening or about to happen.
- Observe if there is something that generally sounds fishy, be careful.
- Observe if someone is overly defensive, he might be lying.
- Try to change the subject easily and observe if the person flows with you. A liar or cheater usually finds it difficult to flow with you when a subject matter is changed.
- Guilty people often try to change a subject matter with using humor or sarcasm, be careful when you observe this.
- Observe when someone is telling too much about a particular issue (exaggerating details), something might be wrong.
- Observe the micro expressions which are generally facial expressions to include short lines that appear across one's forehead. Most times this indicates that something is wrong.
- Observe if the person is saying "no" several times, something might be wrong. For instance when asked "Did you steal the money?" The liar will answer, "No, I did not steal the money."
- Observe when someone smug, show uncommon calmness, show some hesitant, show some slouching posture, lacks finger pointing when discussing, something might be wrong.

6. AI BASED SOLUTION

This research can be expanded to cover the use of artificial intelligence for deductions, reasoning and problem solving involving illegal or fraudulent activities carried out on virtual meeting systems (Skype).

Also with the help of artificial intelligence, people's behaviour can be observed and analysed and as soon as a dubious conversation is noticed in the speech, voice or facial appearance, the recording software would automatically start the recording process. Hence this will greatly reduce the burden of the user involving in starting of Camtasia Studio 7 when such activities are noticed.

The research can also cover the aspect of tracing the offender's IP address and probably the distance and location, so that in case the FCID need to investigate the offender, it will be easy and possible.

7. CONCLUSION

The captured evidence using Camtasia Studio 7, clearly showed details of the conversations that took place between the involved parties. The FTK imager produced a hash value of the captured evidence in both phase 1 and phase 2 of the experiment, hence protecting the integrity of the evidence and the Contemporaneous notes showed the detailed steps and findings made during the research. If this procedure is followed, the rate of cybercrimes will be greatly reduced in Nigeria and other parts of the world

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