DIGITAL FORENSICS EDUCATION IN PAKISTAN -A NEW WAY TO UNDERSTAND THE DIGITAL WORLD

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ABSTRACT: Computers, the invention of the 20th century, have played a vital role in transforming our lives and the world around us. In order to keep pace with the modern world, it is necessary that we must get equipped with the basic knowledge regarding computers. For this purpose, various institutes in Pakistan and abroad have introduced the discipline known as digital forensics in their institutes.

This research paper incudes the basic curriculum pattern required to teach this discipline across various institutes which will enable the students of digital forensics to get basic knowledge regarding the field of information technology.

KEYWORDS - Basic knowledge, Curriculum pattern, Digital forensics, Equipped, Information technology, Vital

I.   INTRODUCTION

With the invention of the computers in the 20th century, the world has been completely revolutionized as they have transformed the ordinary world into a digital global village. Due to the frequent usage of computers in our daily life, it is necessary that one must be equipped with the basic knowledge regarding information technology. For this purpose, digital forensics education is introduced in various educational institutes of Pakistan to equip our new generation with the latest knowledge regarding information technology.

Due to our excessive reliance on digital devices and gadgets, these devices are enormously used for certain investigating purposes like criminal investigations. Now-a-days, certain security detecting systems are used in institutions to recognize electronic attacks and to curb them. The term 'computer forensics' has its roots in ancient legal agencies which utilized it for the scrutiny of those digital devices which contain digital proofs of various criminal activities. With the increase in the usage of computers and their advanced networks, computer forensics is now used to name those digital equipment that were affected by any gruesome or malfunctioning virus.

A brief history of computer forensics reveals that these computers were used as the major source of investigating crimes which was used as an evidence in computer related crimes. There was no formal education or forensic training given to the early practitioners; therefore, these crimes were not solved properly. With the passage of time, computer forensics process became more formal with the development of commercial tools. Various short training programs and courses were introduced to teach the students about the basics of computer forensics. Presently, there are several ongoing programs and training courses which work with the aim of imparting comprehensive training and education to the new cream of students. One such example is the CSDS Forensics Workshop which guide the students about the basics of digital forensics.

II.   CURRICULUM OF DIGITAL FORENSICS

Following steps are to be kept in mind while devising the curriculum for digital forensics:
An Envisioned Forensic Workforce Before devising the curriculum for digital forensics, we have to develop a formal forensic workforce. For this purpose, certain computer skills and positions are to be identified that the education program will require. Different fields of the world require expert forensics individuals who can work feasibly in imparting education to the young talented individuals. Law enforcement agencies, industrial field, academia and other various organizations require competent forensics specialists to work in the different fields of teaching digital methodologies for forensics education, researching novice technologies and validating innovative methodologies.

Different forensic positions are listed here which play a significant role in devising and developing computer forensics education.
CNF Technician

The CNF technicians adopt the technical ways of collecting proofs by gathering information from digital devices and network connections. These technicians have the know-how of both software and hardware on digital computers and carry out certain tasks related to computer forensics in a competent manner.
CNF Policy Maker

The CNF policy makers manage and administer CNF policies reflecting the wide ranging strategies of the enterprise. Their responsibility is to check the impact and effect of forensics while aiming to achieve certain business goals. They deal with the techniques of private affairs and moral codes in addition to certain other issues related to forensic trade. Being familiar with computing and forensic sciences, they stress the multi-disciplinary character of CNF while protecting their legal aspects and highlighting the technical and law-related foundations of CNF.

CNF Professional
CNF professionals act as a chain in which policy matters and their implementation is carried out. They are equipped with vast technological skills and profound understanding of legal procedures and requirements. Moreover, their main aim is to fully get themselves acquainted with the basic professional work in order to make sure that the CNF policies are carried out well in the professional realm.

CNF Researcher
CNF researchers work as the competent researchers in various educational fields who teach the students various techniques regarding digital forensics system. They generally work as trainees for basic computer and proof discovering classes and are capable of imparting the basic education regarding computer forensics in the students of this discipline.
Now let us discuss the two primary types and modes of curriculum in digital forensics education.

III.   MULTIDISCIPLINARY CURRICULUM
It is the type of curriculum that accommodates and contains the complex and intersecting disciplines related to this area of study. This course was founded, published and discussed by Bashir, et.al (2014), Lang, et.al (2014), Al Amro, et.al (2012) and Garfinkel, et.al (2011), Furthermore, certain digital forensics programs were included in this discipline which contain balancing training and education, providing sufficient textbooks on digital forensics, giving highly trained professionals, initiating proper lab set ups in institutions, selecting appropriate pre requisites and providing widely accepted curriculum standards to the students of digital forensics.

IV.   STANDARDIZED CURRICULUM
It is a new undergraduate certificate program and related curriculum for the digital forensics educational program. This model emphasizes that digital forensics must be a specialization program within a technical domain. This curriculum provides a potent pillars for the technologies based on theories acknowledged and understood by the pupils. The hall marks of this course include a multi-perspective approach to digital forensics education, professional experts from various fields relating to digital forensics, developing and teaching the course work and curriculum in an effective form. A digital forensics education sequence containing three courses and models are gathered together in order to make the students aware to the multiple perspectives on digital forensics. Various professional experts in digital scrutiny process, information technology networks, legal, civilian and crime related justice, investigation of fraudulent activities and experts in psychology teach this module to the students based on their areas of expertise. This curriculum is made with the intent of being readily available and adaptable at several educational institutes.

V.   CONCLUSION
Computer Digital Forensics Education is the kind of education that is being introduced in various institutes across Pakistan in order to impart the basic knowledge regarding digital forensics and crimes to the young students of this discipline. With the advancement in information technology and its growing usage, it is necessary for our young generation to get fully equipped with the basics of this field. By getting the necessary knowledge regarding this discipline, our new generation will become able not only in becoming expert in this discipline but can also root out various computer crimes from this world in order to make this world a better place to live in.

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