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Chapter XIII

Forensic Computing: The Problem of Developing a Multidisciplinary University Course

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Abstract

In order to be able to address issues of digital crime and forensic science in cyberspace, there is a need for specifically skilled individuals. These need to have a high level of competence in technical matters, but they must also be able to evaluate technical issues with regards to the legal environment. Digital evidence is worth nothing if it is not presented professionally to a court of law. This chapter describes the process of designing a university course (a full undergraduate BSc degree) in forensic computing. The aim of the chapter is to present the underlying rationale and the design of the course. It will emphasise the problem of interdisciplinary agreement on necessary content and the importance of the different aspects. It is hoped that the chapter will stimulate debate between individuals tasked with designing similar academic endeavours and that this debate will help us come to an agreement what the skills requirement for forensic computing professionals should be.

Introduction

The fact that cyberspace increasingly is turning into a place where criminal acts are committed requires law enforcement agencies, businesses and other organizations to develop new competences. This means that either existing personnel will have to develop new skills or that new personnel with specific skills will have to be employed. These alternatives require facilities that allow people to learn the skills required for dealing with computer crime and digital evidence. The evolving sophistication of computer crime, together with the methods and tools required to detect and deal with it, demand the timely development of new university programs. It is the purpose of this chapter to recount the development of a new undergraduate course[1] in forensic computing in the School of Computing of De Montfort University, Leicester, UK (DMU). The chapter will start by providing a general background of the rationale for starting the course. It will go on to describe the requirements and organizational constraints that shaped the outline of the course. The chapter will then overview the topics to which students must be exposed in order to discharge their professional responsibilities. Finally the chapter will discuss the implementation of the forensic computing course and reflect upon the problems arising due to its complex and multi-disciplinary nature.

The chapter should prove interesting to readers of the book for several reasons. Among these is the fact that the chapter moves beyond the theoretical and academic discussion to deal with the important question of how forensic computing can be taught with requisite emphasis upon the practical, legal, and ethical issues to which it gives rise. The chapter raises the problem of where those professionals with the skills necessary to address the issues of forensic computing will come from and of how a university can deal with the challenge of setting up and teaching degree courses in the field. More importantly, the chapter reflects upon the interdisciplinary nature of forensic computing and the problems to which this gives rise in the design and delivery of forensic computing courses. Competition for resources between the technical, legal, and professional components of the degree is generated by the complexities of forensic computing. Which skills and to what degree are these needed by a high-technology crime investigator? How much technological knowledge is necessary and how much knowledge of the law does a forensic computer scientist need? Who can count as an expert witness in a court of law? These questions lead to greater questions: What is the role of computers in society, the function and purpose of the law, and ultimately to the deep question of how may we, as societies, design our collective lives. While we cannot answer these questions comprehensively here, it is important to stress the role they must play in the development of a successful forensic computing course.