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Computer Forensics Community: A Case Study

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Computer forensics is a multidisciplinary program which requires a specific curriculum design. Many researchers have focused their attention to the creation and development of such curriculum in order to improve teaching standards in computer forensics (Bashir M. & Campbell R., 2015; Kessler C. & Schirling E., 2006). The educators in computer forensics are facing with many challenges both educational and technical such as balancing training and education (Cooper et al.,2010; Gottschalk et al., 2005), lack of an adequate textbook on digital forensics (Liu, 2006), finding qualified faculty (Gottschalk et al.,2005; Liu, 2006), lab setup (Gottschalk et al.,2005; Liu, 2006), and selecting appropriate prerequisites (Chi et al., 2010; Liu, 2006).

Although, theoretically, an advanced computer forensics curriculum should improve the students' engagement in the program and there has been substantial advancements in terms of novel research and publicly available information and tools but these attempts can be complemented and enhanced by introducing extracurricular activities (i.e. directly working alongside the students to improve their engagement). This study is focusing on the students' engagements as well as consistently improving the computer forensics curriculum since practically, each one cannot be achieved without taking into account the other one. In the last three years, computer forensics and security students at Sheffield Hallam University have been involved with many initiatives and activities in order to enhance their learning outcomes. Most of these activities were based on the findings in the research carried out by Bagher Zaheh P. & Zargari S. (2015) where a few factors found to be quite significant in the students' engagement. Briefly, these factors indicate that the students become more engaged with the program if the teaching materials are interesting (& hands on) and they are related to industry as well as having enthusiastic and caring tutors. In order to embed these factors into the program, a SHU computer forensics community (i.e. current students and graduates from previous years; sense of belonging) were formed where the students became a part of teaching assistants. The students are working hard alongside the tutors to develop different lab activities as well as taking responsibilities to support themselves (taking ownership of their learning) and the other students in lower years. The Computer Expert Witness (CEW) module, taught in the final year is a typical example where the students are put into pairs and they develop lab activities for the other students in lower levels. These students are required to design and deliver some sophisticated practical forensics activities in a manner that the attendees who are (or are supposed to be) non-technical individuals understand and be able to carry out the lab activities. The attendees are supposed to act as jury and ask different questions. Therefore, the students who are taking the CEW module gain some experience of being expert witnesses and the other students in lower levels become involved with some extra activities, enhancing their learning experience. Moreover, the involvement of forensics experts in industry with the course has increased the students' motivation and as a results the rates of the placement and employment have substantially increased from the last two years. From employability perspective, lack of work experience is one of the challenges that computer forensics graduates are facing with therefore, in order to facilitate such an environment to gain work experience an IT company, called SHU IT & Forensics Services were setup by the students providing different IT services within the university and outside. This is ongoing project being most favoured by the forensic students at Hallam.

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