

<p>Institution: University of Bedfordshire</p>
<p>Unit of Assessment: 11- Computer Science and Informatics</p>
<p>Title of case study: Cyberstalking countermeasures adopted by Government bodies</p>
<p>1. Summary of the impact</p> <p>The extensive knowledge and understanding built up by the National Centre for Cyberstalking Research (NCCR) at the University of Bedfordshire (UoB) has provided the basis for decisions, plans and training programmes by UK government and official bodies including the Stalking and Harassment Working Group of the Association of Chief Police Officers (ACPO), who are seeking to understand, counter and legislate for cyberstalking; a change in UK law has taken place. Public presentations and extensive international media coverage of the NCCR findings has resulted in an appreciation of, and public debate on, the nature and dangers of cyberstalking, along with potential protection options for victims.</p>
<p>2. Underpinning research</p> <p>Professor Carsten Maple (Pro Vice Chancellor (Research and Enterprise) and Professor of Applicable Computing), Dr. Emma Short (Senior Lecturer in Psychology), Dr. Antony Brown (Lecturer in the Department of Computer Science and Technology) – all 2007 to date.</p> <p>Maple et al (2007) [3.1] reviewed wireless network protocols, and investigated reliability, availability and security when using wireless networks. This paper, by use of a case study, illustrated the importance of implementing secured wireless networks, and showed the significance of this area of development. The paper presented a discussion of the case study and provided a set of recommendations to mitigate the threat. Within the review, legal aspects were highlighted, and activities such identity theft, malicious lockouts, and forms of electronic harassment were considered, as well as technological solutions for increased security. This built upon 10 articles by the author on trust and security in distributed systems, over the four preceding years.</p> <p>In parallel with Maple’s research, Short and McMurray (2009) [3.2] were exploring mobile phone-based harassment and, in particular, perceptions of intrusive text messages. Initial research explored the link between mobile phone use and harassment behaviours. This research examined perceptions of unwanted communication, with focus groups and surveys. Participants were asked to respond to hypothetical questions about continued and unwanted contact being maintained as if they were both a sender and recipient of the contact and if they had actually been harassed. Response options allowed for intended behaviour to be measured against generally agreed thresholds of duration and frequency used to identify harassment. Findings indicated that harassment by text is more prevalent than other forms of off-line stalking and, despite recipients reporting being distressed, there was still a higher level of acceptance of this form of harassment than of other forms. Furthermore, responses to text harassment were associated with a high frequency of behaviours perceived as not actively discouraging further texts, therefore having the effect of prolonging unwanted contact.</p> <p>A further development of this research programme can be seen with an investigation for the Serious and Organised Crime Agency (SOCA) in 2010 into information security breaches – a significant area of cyber-crime – which had arisen in the context of the use of electronic information management systems [3.3]. This report provides detailed information through the analysis of real and current information security breaches. The analysis clearly reveals that there are certain areas that organisations are commonly found to be neglecting. The high percentage of insecure web applications and their susceptibility to malware and to SQL injection [<i>attacks based on the use of Structured Query Language, a database management technique</i>] demonstrates a widespread lack of understanding about these subjects and highlights the need for educating software developers about preventative measures. While more focused on vulnerable corporate and commercial environments, the report also mentioned more vulnerable communities such as individuals and smaller e-commerce enterprises. The recognition that criminals can use techniques to ‘cover their tracks’, and to spoof their identities and locations, led to a decision within the University that the study of cyberstalking merited a dedicated approach within the realm of computer science and informatics.</p> <p>A major study was sponsored at the University of Bedfordshire by the Network for Surviving Stalking (NSS), with the support of the Crown Prosecution Service. Although the technology behind cyber-stalking is electronic, and with strong software enablers, any attempt to modify the</p>

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technology, or influence its use, must be based on a good understanding of the social aspects of the problem. Accordingly, to understand the scope of the cyberstalking problem and to investigate the groups of people affected by it and the factors which result in the largest degree of harm, the 'Electronic Communication Harassment Observation' (ECHO) project was undertaken. The structure of the ECHO pilot study, which included a questionnaire, was designed by Dr Emma Short, a psychologist at the University of Bedfordshire, in partnership with the NSS.

The questionnaire was developed using psychological psychometric expertise through an iterative process with the charity and the leading UK psychologist in the area of stalking, Lorraine Sheridan. Stalking victims were asked to complete an anonymous on-line questionnaire, accessed through the Network for Surviving Stalking web-site. The analysis measures used included clinical screening instruments of anxiety and trauma.

The results of the pilot study (Sep 2010 to March 2011) [3.4] indicated that there was a previously unrecognised severity of impact on victims. Thus clear guidelines have been suggested, based on data, to deter unwanted communications and to make clear the legal implications for those who persist. The results from the pilot study identifying the extent of the damage that victims experience has indicated the necessity for risk assessment in such cases. This triggered development of a further study to include the elicitation of victims' perceptions of stalkers' motivations which is essential information in assessing risk and advising on case management.

The parameters of that further study were set by outcomes of the pilot. The analysis of those further results has recently been completed, and indicates a difference between the motivation of online stalkers and offline stalkers.

The results of the pilot, even before the further study was carried out, were seen to provide a significant insight into the nature and extent of the cyberstalking problem and potential ways of combating it, both at a technical and a legislative level.

The results of the ECHO study, and the experience gained in the field of cyberstalking, were brought into the legal domain when Prof Maple worked with Richard Lang, a lawyer, to assess ways in which European law could be modified to take account of cyberstalking. A paper was prepared and published [3.5] which made recommendations for the EU domain. Further recommendations for the UK were made and published [3.6]. Continuing developments include the development and review of training material for front line practitioners in line with the most recent research findings.

3. References to the research

- 3.1 Maple, C., Williams, G, Yue, Y. (2007) 'Reliability, Availability and Security of Wireless Networks in the Community', *Informatica* 31 (2007) 201–208
- 3.2 Short, E and McMurray, I (2009) 'Does being a mobile phone user put individuals at increased risk of experiencing harassment?', *Human Technology*, 5, 2
- 3.3 Maple, C. and Phillips, A. (2010) 'UK Security Breach Investigations Report – An Analysis of Data Compromise Cases', published by 7safe (a PA Group company), and available from www.7safe.com/breach_report
- 3.4 Maple, C., Short, E., Brown, A. (2011) 'Cyberstalking in the United Kingdom, an Analysis of the ECHO pilot survey'.
Access via: www.beds.ac.uk/data/assets/pdf_file/0003/83109/ECHO_Pilot_Final.pdf
- 3.5 Maple, C., Lang, R. (2012) 'Vulnerability, Victims and Free Movement: the Case for Cyberstalking'. *New Journal of European Criminal Law* 3, Special Issue
Access via: www.crninet.com/pdf_file/intersentia/NJECL_03_02_0208.pdf
- 3.6 Maple, C., Short, E., Brown, A., Bryden, C., Salter, M. (2012) 'Cyberstalking in the UK: Analysis and Recommendations'. *International Journal of Distributed Systems and Technologies*, Issue October-December 3(4).
Access via: www.igi-global.com/article/cyberstalking-analysis-recommendations/70768

4. Details of the impact

Research conducted by the NCCR has directly influenced UK domestic policy, as well as indirectly influencing society through increasing the awareness of the impact and severity of cyberstalking. Coupled with this, the NCCR has contributed to training frontline practitioners through the provision

of resources and expertise. Examples of these various contributions are described below. The former CEO of the Network for Surviving Stalking (NSS) responded to the NCCR's initial research [3.4] stating that it had "helped the leading charity supporting victims of stalking to understand the problem of cyberstalking and the impact on victims. This has allowed the NSS to support victims more effectively than before". The results of the research, and the experience and knowledge gained in the process by the principal researchers, Prof. Carsten Maple and Dr Emma Short, have enabled the following contributions to be made at a national level in the UK.

- *Contributing to changes in the UK law on cyberstalking*

The Crown Prosecution Service (CPS) held a consultation in September 2011 on cyber-stalking with a view to changing the law. Short and Maple were the only academics presenting; the NCCR offers a unique combination of expertise providing insights previously unrecognised. Four roadshow events were held to launch it (in London, Manchester, Durham and Bristol) reaching over 400 frontline workers. In April 2011, at the start of the first National Stalking Awareness Week, there were invited speakers at the launch event from the National Stalking Helpline, from the Association of Chief Police Officers (ACPO) and from NCCR; Carsten Maple and Emma Short presented the results of the ECHO Pilot Study. The CPS took account of feedback provided at the event. The Assistant Chief Crown Prosecutor for London commented "A substantial debt is owed to the National Centre for Cyberstalking Research for their immense contribution to the development of our guidance and new ways of working. We learnt what they had already learnt. We shared what they shared with us. I am sure that victim confidence will increase as a result" [5.1].

In July 2011, Short and Maple gave invited expert evidence based on the ECHO report to the Justice Union Parliamentary Group (JUPG) inquiry into stalking law reform. The chairman of the session has written "Their exposition of why and how stalkers use electronic means for stalking was illuminating. We are grateful to the Centre for its contribution to the enquiry". The presentation of materials to support the inquiry, which include the ECHO report [3.4] are listed on this Home office webpage: www.gov.uk/government/publications/presentations-relating-to-the-consultations-on-stalking.

A rapid change in UK law was made as a result of the JUPG report, and the feedback received from the CPS roadshow. The intention to change the law was announced by the Prime Minister on 8 March 2012 (International Women's Day) and the new law was enacted on 25 November 2012 in the form of amendments to the Protection of Freedoms Bill to make stalking a specific offence in England and Wales. The chairman of the JUPG has written "The evidence presented to us by Professor Maple and Dr Short was crucial in making us realise that such an offence would be necessary, to allow for the serious psychological impact which cyberstalking can have on a victim – particularly over a prolonged period" [5.2].

The National Association of Probation Officers (NAPO) Lead on the Parliamentary Inquiry into Stalking Law reform said "The NCCR provided the only piece of research from academics and gave the parliamentary group an understanding of the extent of cyberstalking and some of the key issues faced. This contribution was an important lever in the decision to change the law".

One of the amendments to the law includes the ability for Police to have access to the use of the internet, email or any other form of electronic communication associated with stalking in a wider range of cases. Another of the changes is the ability of the police to seize a suspect's mobile phone, as a result of the findings highlighted in the ECHO study.

- *Supporting policing through provision of resources and training*

(i) The NCCR has provided information and expertise to the police which has helped to illuminate the means, motives, impact and investigation of cyberstalking. The Assistant Chief Constable of the Greater Manchester Police has said "The work of Prof Maple and Dr Short has given the ACPO Stalking and Harassment working group an invaluable insight into the issue of cyberstalking" [5.3]. The ACPO Stalking and Harassment working group asked the NCCR to produce a one-page guide which provides advice to officers on the front desk of all police stations in the UK which will explain how to address any victims of cyberstalking who report to the police. This is being circulated to all police stations in the UK" [5.4].

(ii) NCCR has provided training materials and delivery of a course by Maple and Short at the College of Policing, at ACPO's request, which covers cyberstalking techniques, their effects on

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the victims and ways of combating the problem.

(iii) Emma Short has delivered training for *Paladin* [a joint agency team of the Metropolitan Police and the Border Agency to safeguard children at London's ports] and for the probation services, and contributed to the design of the British Crime Survey in 2010 through the VAWG (Violence Against Women and Girls) team, ensuring that incidents of harassment via electronic communication were recorded for the first time.

(iv) Emma Short was invited to speak as a panel member on 'Stalking Law Reform – Implications for the Police', at the Police Federation Annual Conference, May 2012. Her research within the NCCR into the psychological and social impacts of cyberstalking was considered important to present to this police body.

- *Providing Support to legal services and EU legislators*

Some of the work carried out by Prof. Maple has been extended to the wider legislative and legal community through cooperation with Richard Lang from the Law Department of UoB. The paper 'Vulnerability, Victims and Free Movement – the Case for Cyberstalking' [3.5] made a critique of a European Commission proposal in May 2011 for a Directive 'establishing minimum standards on the rights, support and protection of victims of crime'. Maple and Lang proposed amendments to the Directive and recommended that they be considered by the European Parliament. Copies of the paper were sent to all MEPs [5.5]. Several MEPs confirmed that the article had assisted them in their consideration of what was an important and complicated piece of legislation.

- *Increasing public and corporate awareness of the nature and extent of cyberstalking*

The research findings of the NCCR team have been widely publicised, both in professional bodies and among the general public. The Acting Head of Policy and Services at the *Suzy Lamplugh* Trust has said that the work "has been hugely helpful in filling knowledge gaps and in helping a wider audience to understand the trauma of cyberstalking, NCCR has collaborated with the Helpline on a number of conferences and campaigns and we are often asked by police officers if we have any information relating to cyberstalking" [5.6]. Prof. Maple spoke in April 2013 to 300 members of the Royal College of Psychiatry at their annual conference about the impact and investigation of cybercrime. As a result of this presentation, he was asked to advise senior psychiatric and IT staff at Broadmoor Hospital on precautions associated with access by patients to the internet.

Since 2010, there has been much media interest in print, radio and television. Dr Short and Prof. Maple have provided material for press articles and have taken part in numerous programmes, demonstrating the reach and significance of the work on cyberstalking. *BBC Breakfast* in April 2011, to coincide with the first National Stalking Awareness Day, included a presentation by Dr Short on the outcomes of the ECHO study and its implications. In July 2011, that programme had an item in which Prof Maple spoke about the vulnerability of systems to phone hacking. Dr Short featured in *The Antisocial Network*, shown on BBC3 in February 2013, www.bbc.co.uk/programmes/b01dwg1n providing information about the impact and risk linked to the escalation of electronic stalking behaviour. Media contributions have also included local and national radio appearances and contributions to articles in publications such as *The Economist*; *The Guardian*; *The Sun* and the BBC News website. These are a few examples; a longer list is available [5.7].

5. Sources to corroborate the impact

- 5.1 Assistant Chief Crown Prosecutor for London.
- 5.2 Chairman of the Justice Union Parliamentary Group's Independent Parliamentary Inquiry into Stalking Law Reform.
- 5.3 Assistant Chief Constable, Greater Manchester Police.
- 5.4 Advice note to police, available from the University of Bedfordshire, on request.
- 5.5 Response from a member of the European Parliament's Committee on Civil Liberties, Justice and Home Affairs.
- 5.6 Acting Head of Policy and Services at the *Suzy Lamplugh* Trust.
- 5.7 List of media references or appearances, available from the University of Bedfordshire, on request.