

## Qualitative Methods for Classifying and Detecting Online Identity Deception



## Abstract

The overall aim of our research is to use qualitative methods to help understand online identity deception. In this position paper, two pilot studies are described. The first was designed to test the feasibility of using content analysis of online discussions to classify the perceptions of the 'net generation' regarding different levels of identity deception. Based on the classifications identified, the second follow-up study will use face-to-face focus groups to collect further thoughts on these classifications, and the new data will be presented at this CHI Workshop. It is hoped that the feedback at the Workshop will help to direct further research using qualitative methods to analyse naturally-occurring identity descriptions found on social networking sites. The overall outcome of the research programme is to produce a set of indicators to assist identity deception in online environments.

## Keywords

Identity, deception, qualitative methods

## ACM Classification Keywords

*H5.3 Asynchronous Interaction; Evaluation/methodology, Web-based Interaction*

## Classifying Identity Deception

This research will draw on models of psychological identity to investigate perceptions of deceptive online identity.

When identity is presented virtually, features of the Internet can allow easier deception, than is the case for face-to-face presentation (Joinson, 2002). For example, asynchronicity can allow a dynamic approach to identity to enable quick changes between interactions, while the lack of feedback and the anonymity or unfamiliarity of the audience can reduce concern for others' views. As Rheingold (2000) states, 'the authenticity of identities is always in question online, because of the masking and distancing of the medium'.

Psychological research into online identity deception is contributing to our understanding, however it is unclear how Internet users, and particularly those from the so-called 'net generation' perceive online deception. It is obviously not pleasant to know you have been deceived (e.g. Joinson & Dietz-Uhler, 2002), but how do online users perceive or identify the accuracy of the identity of people they are communicating with? An early survey by Buten (1996) showed that 91% of home page authors felt they presented themselves accurately and 67% felt that it was inappropriate to misrepresent yourself on home pages. However, this positive view is not illustrated in many more recent internet studies (Burgoon, Stoner, Bonito & Dunbar, 2003).

We wanted to explore this topic using a qualitative approach as this would enable us to understand perceptions and thoughts regarding online identity deception. The research will also develop some of the issues previously raised by Denegri & Taylor (2005), who discussed how internet users label or define online deviance.

## Method and results

Seven small groups of final year undergraduate students took part in two 2-week asynchronous online discussions of two topics: topic 1 deviance on the net, and topic 2 developing and maintaining e-identity. The discussions took place as part of assessed coursework, so they do not represent natural communication, however post-discussion interviews showed that students soon forgot that their online comments were being assessed.

A content analysis of the online discussions was carried out. Initially, this revealed a list of 19 perceived levels of identity deception which were ordered on a scale from honest to deceptive. The levels were then collapsed to produce five categories. Although, some comments could be included in more than one category, a dominant category was identified in each case. The categories were:

1. Honest identity, where individuals reflect on their identity in a realistic and accurate way. The few instances within this category do not support the findings of Buten (1996).

2. Minor deception, where a person may deliberately withhold or over-emphasise a piece of social information in order to produce a more positive perception from others. This has also been termed 'impression management' in the literature (e.g. Jaffe, Young-Eum, LiNing & Hayg, 1995).
3. Partial deception for self-exploration, where a person may focus on one attribute to develop and explore. The large number of cases in this category support the work by Chandler (1998).
4. 'Normative' complete deception, where a new identity is adopted, e.g. in gaming, gender switching is considered normative and playful, rather than deviant.
5. 'Anti-normative' complete deception, where a new identity is adopted for deviant reasons, for example to illegally obtain services, goods, or for immoral intentions to exert power over someone or gain trust (e.g. in online dating sites, Whitty, 2007).

The identification of these categories will be explored in face-to-face focus groups and the data from these will be presented at the CHI Workshop for discussion.

### **Detecting Identity Deception**

A review of the research relating to identity detection in online environments found that online deception studies tended to focus on either communication content or on communication style to detect deception. It is anticipated that the next stage of research will use qualitative analysis software to investigate cues to online identity deception, considering both content and style of communication. Regarding communication content, Psychologists have investigated the cognitive processes involved and related this to discrepancies in information presented about oneself (e.g. Rowe, 2004). Ravia (2004) analysed text in online games and stated that, 'false identities can be detected by linguistic quirks of the masquerader'. Zhou & Zhang (2004) have conducted an exploratory investigation of deception using instant messaging and the findings of this may be usefully applied to online environments. Danet & Herring (2007) investigated the extent that gender and status could be identified from linguistic cues. It has been suggested that the psychological concept of 'leakage' reveals detail about the author's identity. For example, Miller (1995) stated that, 'The implicit information that does leak through is paralinguistic... a matter of style, structure and vocabulary'. Regarding communication style, researchers have investigated the way that online sub-cultures generate conventions about styles of writing as a mark of membership of some groups (e.g. pink pages being related to homosexual communicators).

Other cues to detecting identity deception include consideration of known facts about a person or website. For example, Rowe (2005) found that accurate detection could be enhanced by consideration of the personal characteristics of communicators, for example deceivers tended to be of lower IQ, more emotional, and of low familiarity. Others have focused on the source of the message, e.g. Briggs (2007) has investigated the levels of trust in websites.

### **CHI Workshop Discussion of Future Research**

**It is anticipated that feedback from participants at this CHI Workshop will help to develop the design of further research. The aim of the next stage of the research is to analyse naturally-occurring identity descriptions found on social networking sites.**

## Citations

- Briggs, P. Health Websites that people can trust - the case of hypertension. *Interacting with Computers*. 19(1), (2007), 32-42.
- Burgoon, J., Stoner, G., Bonito, J., & Dunbar, N. Trust and deception in mediated communication. *Proc. 36<sup>th</sup> Hawaii Intl. Conf. on System Sciences*, Honolulu. (2003), 44-54.
- Buten, J. Personal home page survey. Washington Post Cybersurfing Column, August, (1996).
- Chandler, D. Personal Home Pages and the Construction of Identities on the Web. [accessed on 1 October 2007 from <http://www.aber.ac.uk/media/Documents/short/webident.html>], (1998).
- Denegri, J. & Taylor, J. Deviance on the Internet: a labelling game. *Social Science Computer Review*, 23(1), (2005). 93-107.
- Danet, B., and Herring, S. C., Eds. *The Multilingual Internet: Language, Culture, and Communication Online*. New York: Oxford University Press, (2007).
- Jaffe, J. M., Young-Eum L., LiNing H. & Hayg, O. Gender, Pseudonyms and CMC: Masking Identities and Baring Souls. Paper presented at the 45th Annual Conference of the International Communication Association, Albuquerque, New Mexico, (1995).
- Joinson, A., & Dietz-Uhler, B. Explanations for perpetrations of and reactions to deception in a virtual community. *Social Science Computer Review*, 20 (3), (2002), 275-289.
- Joinson, A. *Understanding the Psychology of Internet Behaviour*, (2002).
- Miller, H. H. The presentation of self in electronic life: Goffman on the Internet. Paper presented at Embodied Knowledge & Virtual Space Conference, Goldsmiths College, (1995).
- Ravia, F. Trolling lore. [Accessed on 1/10/07 from [www.searchlores.org/trolls.htm](http://www.searchlores.org/trolls.htm)] (2004).
- Rheingold, H. *The Virtual Community*. MIT Press, (2000).
- Rowe, N. Designing good deceptions in defense of information systems. Computer Security Applications Conference, Tucson, AZ, (2004), 418-427.
- Taylor, J. Psychological identity and the Internet. The European e-Identity Conference, EEMA. Barcelona, June, (2006).
- Whitty, M. T. The art of selling one's 'self' on an online dating site: The BAR Approach. In M. T. Whitty, A. J. Baker, J. A. Inman. (Eds). *Online matchmaking*. Palgrave Macmillan, (2007).
- Zhou, L. & Zhang, D. Can online behavior reveal deceivers? - an exploratory investigation of deception in Instant Messaging. Published in the Proceedings of the 37<sup>th</sup> Hawaii Intl. Conf. on System Sciences, (2004), 22-30.

---

Dr Jacqui Taylor  
Psychology Group.  
Bournemouth University.  
Poole, BH12 5BB UK  
jtaylor@bournemouth.ac.uk

Dr Carolyn Mair  
Faculty of Media, Arts and Society,  
Southampton Solent University  
East Park Terrace  
Southampton, SO14 0YN UK  
Carolyn.Mair@solent.ac.uk