INTRODUCTION

An important problem in online communities is detection of deception by their members. Deception is a form of manipulation, and can have many varied negative consequences in a virtual community, especially once discovered (Joinson & Dietz-Uhler, 2002) and even if undiscovered. Virtual communities need to be aware of the problems and need to agree on policies for detecting deception and responding to it.

BACKGROUND

Online deception is encouraged by the special circumstances of online communities (George & Carlson, 1999). Studies have shown that deception occurrence is inversely related to communications bandwidth, or the rate at which data can be transmitted between people (Burgoon, Stoner, Bonito, & Dunbar, 2003). In other words, people feel more inclined to deceive the more remote and less familiar they are to the deceivees, and both factors usually apply online. Unfortunately, people are less effective at detecting deception than they think they are (Eckman, 2001). Online deception is especially difficult to detect; in many cases it is never discovered or is discovered much later, due to the lack of authority in cyberspace and the temporary nature of much cyberspace data.

DECEPTION DETECTION METHODS

There is a large literature on the detection of deception in conventional face-to-face social interaction. Although people are often poor at detecting deception, they can improve with some training (Ford, 1996). People doing detection can use both low-level and high-level clues. Low-level clues can be both nonverbal and verbal (see Table 1). Nonverbal clues (“cues”) are generally more telling since they are often harder to suppress by the deceiver (Miller & Stiff, 1993). One must be cautious because not all popularly ascribed clues are effective: polygraphs or electronic “lie detectors” have not been shown to do better than chance. Note some nonverbal clues appear even without audio and video connections; for example, Zhou and Zhang (2004) showed four nonverbal factors that they called “participation” were correlated in experiments with deception in text messaging, such as the pause between messages.

High-level clues (or “cognitive” ones) involve discrepancies in information presented (Bell & Whaley, 1991; Heuer, 1982), and they can occur in all forms of online interaction. For instance, if a person A says he/she talked to person B but B denies it, either A or B is deceiving. Logical fallacies often reveal deception, as in advertising (Hausman, 1999); for instance, a diet supplement may claim you can lose 10 lbs a week without changing your diet. In deception about matters of fact such as news reports, checks of authoritative references can reveal the deception. Inconsistency in tone is also a clue to deception, as when someone treats certain people online very differently than others.

Suspiciousness of clues is enhanced by secondary factors: the less clever the deceiver, the more emotional the deceiver, the less time he/she has to plan the deception, the less chance he/she will be caught, the higher the stakes, the less familiarity of the deceiver and deceivee, and the more pleasure the deceiver attains from a successful deception (Eckman & Frank, 1993). The perceived likelihood of deception can be estimated as the opposite

Table 1. Low-level clues to interpersonal deception

<table>
<thead>
<tr>
<th>Visual clues</th>
<th>Vocal clues</th>
<th>Verbal clues</th>
</tr>
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<tbody>
<tr>
<td>increased blinking (video)</td>
<td>hesitation (text, audio, video)</td>
<td>overgenerality (text, audio)</td>
</tr>
<tr>
<td>increased self-grooming</td>
<td>shorter responses and shorter pauses</td>
<td>increased use of negatives (text, audio)</td>
</tr>
<tr>
<td>actions (video)</td>
<td>(text, audio, video)</td>
<td></td>
</tr>
<tr>
<td>increased pupil dilation</td>
<td>increased speech errors (audio)</td>
<td>increased irrelevance (text, audio)</td>
</tr>
<tr>
<td>(video)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>higher voice pitch (audio)</td>
<td></td>
<td>increased hyperbole (text, audio, video)</td>
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</tbody>
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