

## Situated Negotiation of Telephone Presence: Call Screening

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### Abstract

This survey study found telephone call-screening, an example of “Informative Alerting”, to be a common and effective part of an active, multi-cue strategy for negotiating communication.

### 1 Introduction

There is currently a great deal of interest in enhancing electronic communications with contextual Presence information in order to increase its efficiency, social closeness and quality. (Isaacs, et al., 2003). Many systems (e.g. Instant Messaging, IM) utilize a “publish-and-subscribe” paradigm to convey Presence: Status is updated by the user or his activities and then published to other users who subscribe to it. Published Presence cues such as location, “onlinedness” and device capabilities can suggest the likelihood of having a conversation as well as a generalized sense of “togetherness”. On the other hand, the publish-and-subscribe paradigm may not be very effective for conveying whether a person is momentarily “available” for, and currently desires communications<sup>1</sup>. Availability is elusive, difficult to detect automatically and changes rapidly (Milewski and Smith, 2000). It is not uncommon for an office worker to be available one minute and busy with an important conversation the next. In addition, a person’s availability often depends on who is making the interruption and why. Nardi, et al (2000) report that IM users often initiate conversations by asking about availability in-line rather than by relying on status.

An alternative to publish-and-subscribe is the “informative alerting” paradigm. Here, the potential recipient of a conversation uses rich contextual information provided by the initiator to decide, spontaneously, whether to interact or not. This information could include the initiator’s identity, the reason for the requested interaction, its importance, etc. Informative alerting may be more effective in negotiating communication because it is more situated (Suchman, 1987). On the other hand, recipients may find the interruptions an intrusion and initiators may feel their privacy diminished. There are unanswered questions about informative alerting, but telephone call-screening behaviors provide an opportunity for studying them. A significant percentage of telephone users have answering machines whose audio they can monitor while callers leave a message. “Call-screening” involves using this audio information to decide whether or not to answer the call. As such, telephone call-screening is a form of informative alerting already in practice. The current web-based, twenty-five-item survey study of one-hundred forty-seven respondents explored how answering-machine owners screen, what information they gather and what they do with it.

### 2 Results and Discussion

1. Audio screening was found to be a common practice performed regularly by a significant subset of telephone users. Seventy-one percent reported screening some calls, while 34% reported screening more than half their calls. Screeners estimated screening an average of 46.2% calls, although the

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<sup>1</sup> Nardi, Whittaker and Bradner (2000) have termed this “interruptibility”

distribution of screening was highly bimodal. A median split permitted subsequent comparisons between “Frequent screeners” and “Infrequent screeners”.

2. Screening appeared to be part of an active, multi-cue strategy for managing communications. Frequent screeners’ estimate of how long they listened to the audio before answering the call was longer than that for Infrequent screeners (5.1 vs. 3.7 sec<sup>\*\*2</sup>). Compared with Infrequent screeners, Frequent screeners estimated deciding to not answering a greater proportion of screened calls (44.7% vs. 33.4% \*\*) and more often knowing the source (83.9% vs. 74.9% \*\*), and reason for call (80% vs. 72% \*) before answering. Interestingly, Frequent screeners reported also using Caller ID more often (70% vs. 48% \*\*). Finally, across all screeners, screened calls were judged to be less of an inconvenience than answering calls blindly (60% vs. 28%), establishing a clear motivation for screening.
3. Screening provides a variety of information that can be used to negotiate the call. Overall, the caller’s name was judged most important and the most used. However, the reason for call and urgency and emotional cues from the audio are also considered important.
4. Screening is generally viewed as acceptable. Seventy-six per cent of screeners considered their own screening “never rude”. Only 1% considered it “rude”, and 23% reported that it depended on the caller. Similarly, 79% of all respondents considered being screened “not rude”. Despite a general rating that screening is not rude, nearly no respondents reported admitting to screening in their answering machine message (3 of 104)

Gillard, et al (1995) reports that access management is a major household concern. Within the limitations of a self-report survey, we have shown that audio screening is a common and active access management technique. Several respondents indicated that the cognitive overhead associated with interrupting ongoing activities to screen a call was preferable to the alternative of not screening and either (i) missing an important call or (ii) receiving an uninformative call alert (e.g., “ring”) that requires social interaction to negotiate. This is consistent with research showing that alerts requiring no action are minimally disruptive (McFarlane, 1999). Finally, screening is generally viewed as a positive thing. However, while respondents claimed that screening is not considered to be rude from a social standpoint, the finding that virtually no one admits to callers that their calls may be screened suggests that screening may not, in fact, be viewed as entirely acceptable. There is a need to explore techniques for obtaining information about the call from the initiator that are not considered rude.

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<sup>2</sup> \*\* indicates p< .05 and \* indicates p<.10 with a two-sample t-test