
Trust 2.1 – Advancing the Trust Debate

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Abstract

Trust has a considerable research tradition in the CHI community. It has been investigated in the context of e-commerce, virtual teams, online gaming, social networking – to name a few. In this paper, we give an overview on this research. We delineate existing research along the key dimensions of objects of trust and related risks, methods and background of research, models of trust, and goals of trust research. Our aim is to provide a basis for the discussion at a special interest group (SIG), but also to give researchers and practitioners with an interest in the field an entry point to existing work. More importantly we hope that the SIG and this abstract will help in driving and structuring future trust research.

Keywords

Trust, Cooperation, Social Computing, e-commerce

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Introduction

The question of trust in online interactions has occupied the Human Computer Interaction (CHI) community for several years. It is interesting to note, though, that the focus of the debates have changed over time. In this paper we trace the key themes of this discussion over

the years and isolate the underlying dimensions, as well as open questions. This review draws mainly on the trust workshops that were held at the CHI and CSCW conferences in 2006, but also on previously published reviews (e.g. the 2004 IJHCS Special Issue on Trust). In doing so, we hope to help structure the ongoing debate and provide a basis for the special interest group (SIG) at CHI 2007. This SIG builds on the impetus of the 2006 workshops by providing a chance to deepen existing relationships and opening the field to interested researchers and practitioners.

Trust research traditions within CHI

The different fields that make up the CHI community have overlapping but distinct trust research traditions. One of the aims of this SIG is to bring these together to see where common ground can be found and where clear definitional boundaries need to be drawn. The HCI debate has mostly focused on user trust in systems or websites and the organizations that provide them [2]. The CMC, and also CSCW, community is traditionally interested mostly in users' trust perceptions of other users or groups, commonly involved in synchronous interactions that are mediated via e.g. text-chat, audio, or video (e.g. [1]).

We propose that trust research in the CHI community as a whole can be delineated along a number of dimensions. Below we give an overview and then proceed to discussing them in detail.

- **Objects of trust and related risk:** The objects of trust under research e.g. individuals, organizations, or agents have fundamental effects on the risks investigated.

- **Methods and background of trust research:**

The different strands of CHI trust research evolved from distinct research traditions and thus tend to favor different methodological approaches to investigate and measure trust.

- **Models and frameworks of trust:** Many models of trust have been published. However, owing to the differences in objects of trust, risks, methods, and theoretical foundations – it's often difficult to see which one is applicable to a specific situation and to what extent they overlap.

- **Goals of trust research:** This is potentially a contested area within the CHI trust research community, as research into users' trust can result in ethical dilemmas.

Objects of trust and related risks

At a first glance, the different strands of trust research in the CHI community can be delineated along the lines of HCI vs. CMC research. However, looking at the evolution of this research it becomes evident that both fields have changed their objectives over time, making the borders between the two less clear.

Early HCI research on decision support systems focused on users' trust in their reliability (e.g. [11]), but with the consumer adoption of the Internet, came a surge of studies on trust in e-commerce, mostly related to users' fear of credit card fraud. Now that e-commerce is widely adopted, online trust research focuses more on privacy, spam, and phishing [11][3]. As e-commerce organizations and many other websites now increasingly support human-human interactions (e.g. on eBay), researchers who initially focused on trust in e-commerce vendors, now also investigate user trust in other users – e.g. in the context of reputation systems.

With this new type of trustee comes a series of new risks that need to be considered, such as users' strategic motives when using reputation systems (e.g. their ability to deceive and to mimic; [4]).

Initial CMC studies mostly investigated trust in virtual teams – generally in a corporate work setting (e.g. [1][7]). The advances in social computing have also widened the scope of this research field to incorporate trust in non-work contexts such as online gaming or online dating (as is evident in the program of recent CSCW conferences). More importantly, however, social computing systems pose questions of trust that are not tied to one specific individual engaged in a synchronous interaction, but to trust in an often only vaguely defined, but still confined, audience. College students now face questions such as "Do I trust my FaceBook 'friends' not to forward my photos from the latest dorm party?"

Crucially, the examples discussed here demonstrate that changes in both the object of trust and the context fundamentally effect what kinds of risks need to be researched.

Methods and background of trust research

Trust has been discussed in various fields for many years prior to its adoption in the CHI community. Philosophy, sociology, psychology, economics, and many more have defined concepts of trust and established methods for researching it [3][12]. Interestingly, the recent continued interest in the CHI community is also mirrored by an increase in research on the topic in those other disciplines [6][10]. While this underlines the centrality of trust to any form of human interaction, technology-mediated or not, it also

results in a lack of unity in terms of concepts and methods.

Methodological diversity, of course, should be welcomed, as triangulation can allow studying a phenomenon more accurately. Methods can be used jointly to minimize the weaknesses of one individual approach. However, in practice methods are often bound to specific research traditions or sub-fields which results in some phenomena being only studied with one particular method. Studies on media richness and trust, for example, often follow a social dilemma approach that is typical in experimental economics.

Models of trust

Over the years many models and frameworks for trust have been proposed in the CHI community. The aim of these is to provide guidance to researchers and designers, but also to progress the field towards a theory of trust online. Some models are targeted at specific objects of trust or contexts (e.g. [3][5][13]) whereas others aim to be more generally applicable [8][12]). In practice, empirical research is still often conducted in the absence of a theoretical framework that could help consolidate findings and build a theory of trust. This practice may be partially due to the lack of awareness for these models, which we hope to help remedy with this review and subsequent discussion. Also, it may be partially due to their plethora and the resulting uncertainty about which model to apply in a given situation. Hence, one of the great chances of uniting the researchers working on trust is to enable the emergence of a 'meta-model'. A first step towards that goal is to bring together the researchers engaged in CHI trust research – across the current boundaries of trust research.

Goals and ethics of trust research

Recently, the cosmetics company Vichy, has come under criticism for establishing a marketing Blog on false grounds [9]. The Blog posed a fictional character named Claire talking “uncensored” about Vichy’s latest product. In reality, Claire was created and operated by a marketing team. Users were quick to criticize this approach forcing Vichy to publicly apologize. It’s easy to see that the creators of the Blog exploited research into trust without consideration of the consequences. The ability to increase trust in another, whether the trust is directed to a website or a person, is a powerful tool that brings with it many ethical dilemmas. Another critical example is phishing attacks that rely on ‘guidelines for trustworthy design’. As researchers and designers we need to discuss our responsibilities – do we want to improve users’ trust or users’ ability to place trust well?

Summary

This review traced the historical evolution of trust research towards reaching the many issues that concern us today. The aim was to provide a starting point for discussion, to bring together under a common theme researchers in these tracks, and designers whose effort ultimately has an effect on how online systems are designed and implemented.

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