

# Chapter 1.9

## Establishing the Credibility of Social Web Applications

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### INTRODUCTION

In recent years, there has been a steady shift in the *nature* of Web applications. The vehicle of this transition of Web applications is *us*, the people. The ability to post photographs or videos, exchange music snippets with peers, and annotate a piece of information, are but a few exemplars of this phenomenon. Indeed, the pseudonym Web 2.0 (O'Reilly, 2005) has been used to describe the apparent “socialization” of the Web.

In spite of the significant prospects offered by human-centric Web applications, the mere fact that virtually *anyone* can set up such applications claiming to sell products and services or upload/post unscrutinized information on a topic as being “definitive,” raises the issues of credibility from a consumers’ viewpoint. Therefore, establishing credibility is essential for an organization’s reputation and for building consumers’ trust.

The rest of the article is organized as follows. We first provide the background necessary for later

discussion. This is followed by the introduction of a framework within which different types of credibility in the context of human-centric Web applications can be systematically addressed and thereby improved. Next, challenges and directions for future research are outlined. Finally, concluding remarks are given.

### BACKGROUND

In this section, we present the fundamental concepts underlying credibility and present the motivation and related work for addressing credibility within the context of Web applications.

#### Basic Concepts of Credibility of Web Applications

For the purposes of this article, we will consider credibility to be synonymous to (and therefore interchangeable with) believability (Fogg & Tseng, 1999).

The concept of credibility can be classified based upon the types of user interactions with a Web application. A user could consider a Web application to be credible based upon direct interaction with the application (*active credibility*), or consider it to be credible in absence of any direct interaction but based on certain pre-determined notions (*passive credibility*). There can be two types of *active credibility*, namely *surface credibility*, which describes how much the user believes the Web application based on simple inspection, and *experienced credibility*, which describes how much the user believes the Web application based on first-hand experience in the past. There can be two types of *passive credibility*, namely *presumed credibility*, which describes how much the user believes the Web application because of general assumptions that the user holds, and *reputed credibility*, which describes how much the user believes the Web application because of a reference from a third party.

### Related Work on Credibility of Web Applications

The issue of the credibility of Web applications has garnered attention in recent years from diverse viewpoints and this has led to theoretical (Fogg, 2003; Metzger, 2005) and empirical (Consumer Reports WebWatch, 2005) studies pertaining to the credibility of both commercial and non-commercial Web applications.

There have been some partial efforts in addressing the credibility of Web applications. A set of guidelines for improving the credibility of Web applications have been presented (Fogg, 2003). However, these guidelines are stated in such a fashion that they can be open to broad interpretation, do not always present the relationships among them, and are stated at such a high-level that they may not always be practical or may be difficult to realize by a novice user.

A general framework for addressing the credibility of Web applications has been proposed

previously (Kamthan, 2007; Kamthan, 2008). This article presents an adaptation as well as a modest extension of these works.

## A SYSTEMATIC APPROACH TOWARDS THE CREDIBILITY OF WEB APPLICATIONS

In this section, we consider approaches for understanding and improving active and passive credibility.

### Stakeholders and Credibility of Web Applications

We identify two broad classes of stakeholders with respect to their *roles* in relationship to a Web application: a *producer* (such as the provider or an engineer) is the one who owns, finances, develops, deploys, or maintains the Web application, and a *consumer* (such as a novice or expert user) is the one who uses the Web application for some purpose.

We then assert that credibility is a *perceived* quality attribute with respect to the stakeholders of a Web application. Indeed, we view credibility as a *contract* between a producer and a consumer. This contract can have ethical, legal, and/or moral implications.

### Addressing Active Credibility of Web Applications

We consider a Web application to be an interactive information system and adopt semiotics (Shanks, 1999; Stamper, 1992) as the theoretical basis for communication of information. The active credibility of Web applications is viewed as a qualitative aspect and is addressed indirectly from the perspective of semiotics (Table 1).

We now discuss each of the components of Table 1 in detail.

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