

# Chapter 7

## Fuzzy Online Reputation Analysis Framework

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### ABSTRACT

*The fuzzy online reputation analysis framework, or “foRa” (plural of forum, the Latin word for marketplace) framework, is a method for searching the Social Web to find meaningful information about reputation. Based on an automatic, fuzzy-built ontology, this framework queries the social marketplaces of the Web for reputation, combines the retrieved results, and generates navigable Topic Maps. Using these interactive maps, communications operatives can zero in on precisely what they are looking for and discover unforeseen relationships between topics and tags. Thus, using this framework, it is possible to scan the Social Web for a name, product, brand, or combination thereof and determine query-related topic classes with related terms and thus identify hidden sources. This chapter also briefly describes the youReputation prototype ([www.youreputation.org](http://www.youreputation.org)), a free Web-based application for reputation analysis. In the course of this, a small example will explain the benefits of the prototype.*

### INTRODUCTION

The Social Web consists of software that provides online *prosumers* (combination of *producer* and *consumer*) with a free and easy means of interacting or collaborating with each other. Consequently,

it is not surprising that the number of people who read Weblogs (or short blogs) at least once a month has grown rapidly in the past few years and is likely to increase further in the foreseeable future. Blogging gives people the ability to express their opinions and to start conversations about matters that affect their daily lives. These

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conversations strongly influence what people think about companies and what products they purchase. The influence of these conversations on potential purchases is leading many companies to strategically conduct blogosphere scanning. Through this scanning, it is possible to identify conversations that mention a company, a brand, the name of high-profile executives, or particular products. Through participation in the conversations, the affected parties can improve the company's image, mitigate damage to their reputation posed by unsatisfied consumers and critics, and promote their products.

To proactively shield their reputation from damaging content, companies increasingly rely on online reputation analysis. Because consumer-created Web sites (such as blogs) have enhanced the public's voice and made it very simple to make articulated standpoints and, given the advances and attractiveness of search engines, these analyses have recently become more important. They can map opinions and influences on the Social Web, simultaneously determining the mechanisms of idea formation, idea-spreading, and trendsetting. In light of these factors, the intention of the foRa framework is to let communications operatives search the Social Web to find meaningful information in a straightforward manner. The term *foRa* originates from the plural of *forum*, the Latin word for marketplace. Thus, the foRa framework allows an analysis of reputation in online marketplaces and provides communications operatives—i.e., the companies concerned with reputation management—with an easy-to-use dashboard. This dashboard, which is an interactive user interface, allows the browsing of related topics.

This chapter is organized into six subchapters:

- The first subchapter—*Background*— provides the reader in four sections with definitions and discussions of the topic: the first section states the paradigms of the

Social Web with respect to electronic business; the second section introduces Web search engines and their Web agents; the third section introduces the overall approach to overcome the gap between implicit humans and explicit machines; the last section illustrates a visual approach as a link between humans and machines. All of the sections of this subchapter, likewise, incorporate literature reviews.

- The second subchapter—*The Use of Search Engines for Online Reputation Management*—comprises two sections: the first explains reputation management and the second discusses online reputation analysis.
- The third subchapter—*The Fuzzy Online Reputation Analysis Framework*—demonstrates the whole chapter's underlying foRa framework. In doing so, the first section illustrates the framework briefly; the second section explains the building of the fuzzy grassroots ontology; the third section reveals the selection of its ontology storage system; and the fourth section presents the reputation analysis engine.
- The fourth subchapter—*YouReputation: A Reputation Analysis Tool*—presents the youReputation prototype. To provide the readers not only with an abstract framework but also an easy-to-use tool, the building of the *youReputation* (combination of *your* and *reputation*) prototype is also described.
- The fifth subchapter—*Future Research Directions*—discusses further emerging trends and promising fields of study.
- The last subchapter—*Conclusion*—summarizes the key aspects developed and suggests possible further improvements of the presented framework.

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