The Internet of Signs and the Semiotic Web: Signization Using Big Data and the Internet of Things and Emerging Issues

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Roughly 15 years ago the notions of the semantic web were developed (e.g., [2]). At that time it was suggested that the Semantic Web would bring structure to the content of Web pages. The Semantic Web was not seen as a separate Web but one in which information on the Web would be given well-defined meaning. The goal was to be able to better understand and process the data rather than merely display it.

In this paper I investigate "The Internet of Signs" and the "Semiotic Web" and how their development is being facilitated by notions such as "Big Data" and the "Internet of Things." For example, with the "Internet of Things" there are increasing amounts of "big data" available that can provide insights into the "Internet of Signs." Further, the increasing availability of data can facilitate increased development of the "Internet of Signs."

I will examine the relationship between so-called 'Big Data', the 'Internet of Things' (the 'Internet of People and Things,' and the 'Internet of Everything'), and the 'Internet of Signs.' In particular, I investigate how the 'things' in the 'Internet of Things' generate 'Big Data', and how both are used to generate semiotic 'signs'. In addition, I will investigate some extensions beyond those of the data generated from the Internet of Things to include signs available from the analysis of additional alternative media generally considered part of Big Data.

The Internet of Things

As noted by [1], the term the 'Internet of Things', apparently developed in 1999, initially was meant to describe the following situation: Today computers – and, therefore, the Internet – are almost wholly dependent on human beings for information.

The problem is, people have limited time, attention and accuracy – all of which means they are not very good at capturing data about things in the real world. We need to empower computers with their own means of gathering information, so they can see, hear and smell the world for themselves.

As a result, the 'Internet of Things' provides a linked set of computer programs and sensors that do not incur the same limitations of people. Those sensors are responsible for generating huge quantities of data that provide insight into the status of the things, and their relationships with other things and events in the world.

The Internet of Signs

The 'Internet of Signs' indicates that the data generated on the internet from the broad range of sources, including devices in the 'Internet of Things', information from social media (e.g. blogs) and other internet sources (often associated with 'Big Data'), provide 'signs', such as the 'sentiment' toward some issue (e.g. [3]). Those 'signs' generated from information associated with the internet provide an 'Internet of Signs'. The 'Internet of Signs' can be helpful in providing insights and other potential information about events and situations.

In particular, from the perspective of semiotics, rather than concern for an 'Internet of Things' there is concern or interest in what I would call the 'Internet of Signs'. In particular, how does the 'Internet of Things' manifest itself as 'signs' or the 'Internet of Signs' and what are the relationships between the 'things' and signs of 'things'? Ultimately, the relationships between 'things', conceptions of 'things' and symptoms of behaviors can provide a basis to better understand things, entities, events, situations, behaviors and other issues.

The Semiotic Web

Related to the Internet of Signs is the Semiotic Web. Unfortunately, the Semiotic Web, as a parallel to the Semantic Web has received limited direct attention and discussion. The Semiotic Web and the Semantic Web both draw directly on the content of the World Wide Web. The Semiotic Web is similar in concept to the Semantic Web in that it is one whereby information about signs (e.g., sentiment, things, etc.) is becoming increasingly available as greater amounts of information become available.

However, in addition to data from the Internet of Things, the Semiotic Web will need to draw increasingly on other multi-media content to draw out signs for which text is not appropriate or not sufficiently rich. This paper will examine some extensions to the Internet of Signs and the Semiotic Web and examine settings where classic text analysis is not sufficient to "see" the signs related to things, entities, locations, situations and events.

References

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