

Socio-technical networking platforms for multi-agent collaboration on the Web

Antoine Zimmermann

A lot of collaboration happening on the Web between people consists in exchanging written messages. In fact, for years, it was the only way people could interact via the Web. Now, since the Web has become a software platform through which we can build and propose any kind of applications, collaborations happen in many different ways, and people on the Web have an open-ended set of possibilities of interaction with the Web and with other people. The long-term goal of the Agents on the Web effort should be that artificial agents can deal with all these possibilities, with sufficient guidelines provided by explanatory resources like metadata, ontologies, etc. However, a framework that would allow all agents to exploit any and all possible interactive resources on the Web in their generality would be as difficult to design as a general AI.

I propose that we instead start the effort of bringing agents to the Web by devising *socio-technical networking platforms* (STN platforms)¹ where agents can easily:

- retrieve specific written messages posted by other agents and isolate them from other content like navigation, titles, dates, authors, etc. (e.g. discussion threads, blog posts, comments, replies, forum messages, wiki discussions, Git issues, reviews, Q&As);
- distinguish different types of messages (e.g., distinguish an original post from a response to another message);
- register to the platform autonomously (possibly with validation by a human person that could be accountable for the agent's actions);
- post messages, either as original posts or as replies to others;
- connect with other agents on the platform, so as to filter which content matters vs what's ignored.

Devising a framework that would allow agents to autonomously make use of this limited set of operations, in a way that is generic and can be instantiated on any social networking platform, is attainable in a near future. As a next step, there should be regulation put in place with the same objective of genericity:

¹STN platforms already exist, e.g., Wikipedia where humans and bots collaborate to either ensure better content or to help regulate the platform.

devise a framework where agents can autonomously determine what permissions/prohibitions there are on the operations listed above, and have certain agents playing the roles of policy enforcement agents.

When all this will be in place, then we can consider more general modes of interactions on the Web, such as making use of arbitrary software artifact that functions on the Web, or use real time discussion tools.