A semantic web of co-creativity

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Abstract

In this abstract I consider as an open question how a distributed view of creativity influences ideas for the design of co-creative systems (Davis, 2012). I propose a distributed approach to co-creative systems embedded in a semantic web framework (Berners-Lee et al, 2001).

The distributed view of creativity understands creativity as something that primarily occurs through interactions between numbers of people, with individual creative acts relegated to lower significance than they are assigned historically (Csikszentmihalyi, 2015; Simonton, 2012). Consequently, it views creativity as a properly emergent process, where the value systems according to which things are created coevolve with those creative products. For example, an individual perspective on creativity may consider a musician composing a piece of jazz music, whereas a distributed perspective would consider the evolution of the entire jazz style and the ability for any individual to influence that value system as well as respond to it.

From a distributed perspective, there is no clear set of cognitive abilities that comes together in an individual to achieve creative outcomes, although there are key cognitive abilities that contribute to creativity, that have specific effects when combined in certain ways. These include learning abilities and strategies for search. Instead, different people may contribute in different ways to creative outcomes, utilising acts of cognition that are more or less associated with the traditional cognitive view of creativity: a composer coming up with new musical ideas, performers and producers interpreting, label managers promoting, critics analysing, all acting collectively in a distributed emergent process. Understood in this way, cocreative computational systems may not act in obvious ways like human creative agents, but might perform small modular tasks equivalent to these various human roles, such as suggesting ideas, performing evaluation, or embodying specific skills such as painterly rendering or music harmonisation. This distributed perspective is also mirrored in models of distributed creative search that work at a psychological level, such as Neural Darwinism (Edelman, 1987) and Wiggins' IDyOT model (Wiggins and Forth, 2015).

In this presentation I consider how this distributed perspective might influence how we design co-creative systems in more distributed ways. For the purpose of such a discussion, I propose a speculative architecture for creativity support that takes the form of a network of creative systems that could be accessed via a common interface. With this architecture, a creative musician, for example, may submit a request for a new music segment, much as we request search results from Google.com. The request is received from a central 'genie' (for example an assistant like Siri or Google assistant), and is then farmed out to a number of competing service-providers, each of which sees if it is able to service the request. The genie collates the results and performs some additional selection, presenting the best results to the user. The user iterates this process of creative search, making adjustments and selections. By enabling multiple algorithm contributors, such a network would exploit the creative power of human networks, and establish a truly distributed human-computer ecosystem of production.

References

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