

The Re-Coding Black Mirror Workshop at ISWC 2017

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Re-coding Black Mirror is an emerging workshop launching for the first time this year within the context of the International Semantic Web Conference (ISWC 2017). The workshop lies in the broader objective of the organizers to promote the dialogue between semantic web researchers and social scientists with the objective to emphasise potential semantic solutions to societal and ethical challenges. We construct this dialogue exploring technology and societal risks through slightly futuristic scenarios such as the ones of the British-made sci-fi series *Black Mirror*. This gives computer scientists the opportunity to expand their understanding on the technological capabilities but also their own research and think about the risks that they entail. Furthermore, such exercise allows computer scientists to explore how the aforementioned concerns could be addressed including this rationality into their work. In particular, we argue that such an approach and the exploration of those concerns need to be at the forefront of semantic web research, which is to do with advancing the wide-spread processability and exploitability of online information. To that end, we put together a mixed program committee consisting of both social and computer scientists that raised very interesting points in the review process that will be reflected at the workshop.

The papers received for such a rather alternative workshop were particularly interesting including topics from 'digital memory' and personal ratings to scenarios of data driven science. Computer scientists presented the state of the art in their research exploring potential misuse and proposing semantic web solutions. It was also very encouraging to see that the workshop attracted an international attention with submissions from Brazil, Italy, U.K and Ireland. The organizing committee following the reviewers' comments accepted five papers of which three are full-paper submissions and two are short ones.

Bianca Rodrigues Teixeira and Flavia Maria Santoro in their paper 'Memory and Privacy in the Entire history of You' focus on the recording device presented in relevant Black Mirror episode. The authors present the potential misuse of such a technological development suggesting an ontology for digital memory and new features to ensure privacy using artificial intelligence.

Addressing also the pressing concerns over privacy, Yaroslav Nechaev, Francesco Corcoglioniti, and Claudio Giuliano in their paper entitled '*Concealing Interests of Passive Users in Social Media*' address the issue of users' profiling on social networking sites such as Twitter. Responding to these concerns they suggest a system of obfuscation.

Allan Third and John Domingue also explore the potential misuse of social networking sites in their paper 'The Irrefutable History of You: Distributed Ledgers and Semantics for Ubiquitous Personal Ratings' addressing a different problematization. They show how the scenario of everyone's activities being ranked

in real time is already technologically possible via distributed ledger mechanisms and discuss semantic approaches to address the risks of such practices.

Another research agenda that attracted academic attention was the one of artificial intelligence in the context of learning and scientific inquires. Andrea Mannocei, Angelo Salatino, Francesco Osborne and Enrico Motta in their paper ‘2100 AI; Reflections on the mechanisation of scientific discovery’ discuss the implications of a potential future of automated data driven science.

On the same topic but from a different perspective, Wassim Dergues and Mathieu d’Aquin discuss learning analytics and artificial intelligence addressing the question ‘Can Bots be Better learners than Humans?’. In this paper, the authors present the ethical and societal implications of such technological developments indicating the employment of such discussions on the design and developments stages.

The format of the workshop combines presentations with more interactive and creative activities following its objective of raising the awareness of computer scientists on potential societal and ethical issues emanating from their research. Therefore, the first part of the workshop comprises the presentation of the papers followed by discussions on each presentation. In the second part of the workshop, participants will be divided into teams. Each team will be asked to choose a paper of the main ISWC 2017 conference and reshape it into a futuristic dystopian scenario similar to the ones of *Black Mirror* series highlighting emerging concerns. Each team will present their scenario and an open debate around one scenario will follow. This panel-like discussion will encourage the audience to engage with the implications of these technologies, as well as the potential solutions, both methodological and technological, that can be put in place to minimise the risks depicted in the presented scenario.