

FLAIRS-30 Poster Abstracts

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Editors

Decentralized Decision Making in Dynamic Groups for Distributed Free and Open-Source Updating

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We identify and address new hazards due to churning of reviewers used in automatic free open source software (FOSS) updates mechanisms. We introduce new insight into the taxonomy of decision group making processes for such situations, and propose new approaches. With software, newer is not always better! The newer version could be missing some features, which are essential to some users, but are dropped by the developers. Another scenario, with even more serious consequences, is a project taken over by malicious developers who target users' sensitive data, or do other types of damage to their systems or goals. We improve on the FOSS Updates Meta-Recommendations framework integrated by Alhamed et.al with DirectDemocracyP2P. With group recommendations there is a call for properties such as transparency and balance. Quality of decision-making was linked to the quality of the information available to decision makers as well as to the number of decision makers contributing observations and opinions. Communication was identified as the main bottleneck. We classify communication in a group decision support system along the following dimensions: 'face to face' vs. 'online' meetings, 'synchronous' vs. 'asynchronous' interactions, 'close' vs. 'dispersed' geographically located, 'collaborative' vs. 'competing' participants, 'semi-structured' vs. 'unstructured' problems, 'anonymous' vs. 'authenticated' participants, 'access restricted' vs. 'open' meetings, 'advisory' vs. 'constituent' roles for participants, 'static' vs. 'dynamic' group. Solution quality is also measured by the number of casualties and by users' happiness. Increasing information exchange proves being the most effective, but simulations show that simple information aging can achieve comparable performance.