Recent advances in unfolding technique.

Summary: We propose a new, and to date the most general, framework for Petri net unfolding, which broadens its applicability, makes it easier to use, and increases its efficiency. In particular: (i) we propose a user-oriented view of the unfolding technique, which simply tells which information will be preserved in the final prefix and how to declare an event a cut-off in the algorithm, while hiding the technical parameters like the adequate order; (ii) the notion of the adequate order is generalised to a well-founded relation, and the requirement that it must refine $\subset$ is replaced by a weaker one; and (iii) the order in which the unfolding algorithm selects the possible extensions of the prefix is entirely disentangled from the cut-off condition. We demonstrate the usefulness of the developed theory on some case studies.

Keywords: adequate order; unfolding prefix; Petri net; well-foundedness; concurrency

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