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Editorial

Semantic Web tools and systems

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Semantic Web research relies on a number of key methodologies such as knowledge representation languages or reasoning algorithms. As a research community, however, we could not progress based on these methodologies exclusively, but require tools and systems that realize our research results as key technologies for the Semantic Web. There would be no Linked Data without repositories to store them, no Semantic Web applications without application programming interfaces to load and edit ontologies, and no semantics-based user interfaces without reasoners. Consequently, some of these technologies are *research enablers* in their own rights.

Unfortunately, the developers of such software—often researchers themselves—rarely get appropriate credit for their work. Attempts to publish papers describing their software systems frequently provoke reviews and decision letters questioning their 'conceptual contribution'. This criticism may be correct, be it because the conceptual underpinnings have been published previously, or because there may in fact be little conceptual underpinnings apart from excellent software engineering. As a result, developers of key *research enabling* software often have considerable difficulties publishing their work in high-quality journals.

In turn, paradoxically, researchers using these systems within their own work lack a primary citation source for the used software, and may have to settle for a URL, a short demo paper, or for a workshop contribution as citation. These outlets, however, can not provide the rigid quality criteria and visibility compared to journal publications.

There is a need for publishing *Tools and Systems* papers in primary journals. The criteria applied to evaluate such papers have to differ from those applied to classical research articles. Unfortunately, these alternative evaluation criteria are often not spelled out in detail and therefore not consistently taken into account by reviewers and editors. As a consequence, the Semantic Web journal has adopted the *Tools and Systems* article as one of its regular paper types and provides crisp criteria for their evaluation:

Reports on tools and systems—short papers describing mature Semantic Web related tools and systems. These reports should be brief and pointed, indicating clearly the capabilities of the described tool or system. It is strongly encouraged, that the described tools or systems are free, open, and accessible on the Web. If this is not possible, then they have to be made available to the reviewers. For commercial tools and systems, exceptions can be arranged through the editors. These submissions will be reviewed along the following dimensions: (1) Quality, importance, and impact of the described tool or system (convincing evidence must be provided). (2) Clarity, illustration, and readability of the describing paper, which shall convey to the reader both the capabilities and the limitations of the tool.

The *impact* of the described tool or system is indeed decisive. Authors are asked to provide evidence for a substantial number of researchers using their software for research and applications. In exceptional cases, authors may also argue about the *potential future* impact of their software given that they can provide clear evidence for this. Clearly, software prototypes which were only implemented as proof-of-concepts, or software which is closely tied to a particular (externally funded) project, are out of scope. *Originality* or *novelty*—which are decisive dimensions for high-quality research articles—are not mentioned among the evalu-

ation criteria. *Tools and Systems Papers* in the Semantic Web journal are reviewed based on whether they are or will be research enablers as described above.

In this issue, we present a first collection of articles that address this *Tools and Systems* call – and what a fine collection it is!