Call for Papers

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Important Dates

Intent to submit	01 June 2023
Paper submission	01 August 2023
Notification	01 October 2023

Theme Section:
Requirements Formalisation: From Text to Model-based

The automated creation of software models from requirements documents has significant potential as a means of reducing software development costs, accelerating development processes, and increasing the rigour of requirements engineering processes. Typically, such requirements formalisation (RF) involves producing a software model in a language such as UML, or in a domain-specific language (DSL), from natural language requirements documents in text format.

Many approaches have been proposed for automated formalisation of software requirements, typically involving some form of natural language processing (NLP) or machine learning (ML). One gap in this research field is the need for established case studies upon which different approaches can be compared, and there is also a lack of accepted criteria for comparing the results of formalisation approaches. In consequence, it is difficult to determine which approaches are more appropriate or effective for different kinds of formalisation task.

For submission to this Theme Section we ask all authors to apply their approach to an example from the user story cases (k3ucs and FABSucs), or the medical system requirements case from https://github.com/kevinlano/RequirementsFormalisation/tree/main/casestudies (if relevant to their formalisation approach) in order to support comparison of approaches on a common set of examples of real-world requirements documents.

The *Journal of Software and Systems Modeling* (SoSyM) invites original, high quality submissions for its Theme Section on *"Requirements Formalisation"* focusing on topics related to the formalisation of textual informal requirements in formal software models, including:

- Natural language processing techniques for deriving models from requirements statements
- Machine learning approaches for formalising requirements statements as models
- Tools for requirements formalisation
- Comparison and evaluation of different requirements formalisation approaches
- Validation and quality assessment of formalised models
- Requirements formalisation for model-based test-case generationIndustrial case studies and experiences in the use of requirements formalisation

General Author Information

- Papers must be written in a scientifically rigorous manner with adequate references to related work.
- Submitted papers must not be simultaneously submitted in an extended form or in a shortened form to other journals or conferences. It is however possible to submit extended versions of previously published work if less than 75% of the content already appeared in a non-journal publication, or less than 40% in a journal publication. Please see the SoSyM Policy Statement on Plagiarism for further conditions.
- Submitted papers do not need to adhere to a particular format or page limit.
  Please consult the SoSyM author information for submitting papers.
- Each paper will be reviewed by at least three reviewers.

Making a submission

- Communicate your intent to submit a paper by emailing the theme section editors (at requirementsFormalisation23@sosym.org) the following information before the Intent to Submit deadline:

  Title, Authors, and an Abstract.

- Possible submission formats are:
  - Word (.doc, without macros)
  - Rich Text Format (.rtf)
  - PostScript (.ps, special fonts must be embedded)
  - PDF (saved as readable in version 5.0 or earlier)
- Submit your work using the online submission system manuscript central:
  - In step 1, select "Theme Section Paper" as the manuscript type.
  - In step 5, make sure field "Cover Letter" includes the line: "Submission for Theme Section on Requirements Formalisation".

Further information

If you have any questions or require additional information about this theme section, please contact the editors at requirementsFormalisation23@sosym.org.