[EXTERNAL] HCCV 2016 notification for paper 1

HCCV 2016 <hccv2016@easychair.org>

Tue 5/17/2016 1:50 PM

To: Morris, Karla NMN <knmorri@sandia.gov>;

We are pleased to accept your paper
Reconciling SCXML Statechart Representations and Event-B Lower Level Semantics
for the Workshop on High-Consequence Control Verification. The reviews are included below.

Please upload a revised version of the paper within EasyChair by June 9, 2016, taking into account the reviewers' suggestions as best you can within the space available.

We will confirm the timing of your presentation slot when the final program is announced.

Regards,
Jackson Mayo and Michael Butler

---------- REVIEW 1 ----------
PAPER: 1
TITLE: Reconciling SCXML Statechart Representations and Event-B Lower Level Semantics
AUTHORS: Karla Morris and Colin Snook

OVERALL EVALUATION: 2 (accept)
REVIEWER'S CONFIDENCE: 3 (medium)
Validity: 4 (good)
Importance: 4 (good)
Presentation: 4 (good)

---------- Review ----------
The paper describes a tool for transforming SCXML statecharts into the Event-B formalism. The idea is to take advantage of the verification methods available in Event-B, while having the richer semantics of SCXML. This is not trivial as the semantics have several differences well-explained in Section 2.

The paper is clear and well-written. I would have liked to have more examples. In particular, the example of Figures 1, 2 and 3 should be explained more and the figures should be bigger for the sake of readability.

A slight point to improve is that the paper uses iUML-B and Event-B as synonyms. It should be clearer if there are differences between the two or not.

Table 1 is not referred in the text. Which Section does it refer to?

A natural question is that of the guarantees on this translation. How can we trust it? How can we trust you did not forget any semantics difference? How can we trust the tool? Maybe you can add a few additional perspectives on what could be done or

not to increase the trust.

I look forward to the presentation, especially if a demo of the tool is possible.

---------- REVIEW 2 ----------
PAPER: 1
TITLE: Reconciling SCXML Statechart Representations and Event-B Lower Level Semantics
AUTHORS: Karla Morris and Colin Snook

OVERALL EVALUATION: 0 (borderline paper)
REVIEWER'S CONFIDENCE: 3 (medium)
Validity: 3 (fair)
Importance: 3 (fair)
Presentation: 3 (fair)

---------- Review ----------
The paper describes a way to translate SCXML to iUML-B by bridging their semantic differences. The goal is to allow for the verification methods available in Event-B to apply to SCXML.

While section 2 points out these differences, and in some cases suggesting ways of reconciling them, it remains unclear reading the rest of the paper if the translation from SCXML to iUML-B will *provably* preserve equivalence between the two representations. Clarity would be greatly enhanced if, at least, the example in Figures 1 to 3 was used to informally show behavioral equivalence.

---------- REVIEW 3 ----------
PAPER: 1
TITLE: Reconciling SCXML Statechart Representations and Event-B Lower Level Semantics
AUTHORS: Karla Morris and Colin Snook

OVERALL EVALUATION: -1 (weak reject)
REVIEWER'S CONFIDENCE: 3 (medium)
Validity: 3 (fair)
Importance: 2 (poor)
Presentation: 2 (poor)

---------- Review ----------
This paper translates SCXML state charts into Event B.

While the topic is relevant, this paper is highly immature.
Therefore, I cannot recommend acceptance.

In particular:
* The paper requires a serious background in UML
* The translation is described at a too high level
- The example is difficult to understand: Figures 1-3 are not easy to read, and no textual explanation is given to accompany these figures
- The steps in Section 4.2 are more a sketch than a translation
* No evaluation of the tool is presented. Even a small example showing the capabilities of this tool would help

- In particular, the authors state in the abstract that this tool would facilitate verification via formal proofs. It is not clear to me how the current tool chain achieve this objective. Hence, more evidence should be provided.

Detailed feedback
* Abstract:
- what does SCXML mean / stand for?
* Introduction:
- what does CCXML mean?
- It would be helpful to provide a picture explaining how all the formalisms (SCXML, CCXML, iUML, Event-B) fit together
- "SCXML ... intended for call control features in voice applications". That seems rather specialized. How does SCXML help the formalization of proofs then?
* Section 2
- In my opinion, this section is hard to read. It provides a good background in UML. Also, it is not so clear to me what the need for this section is: what will be done with the semantic difference.
- It would be good to illustrate these difference by examples
* Section 3
- I was wondering here what the kind of properties are that the authors want to verify in the first place.
- Figure 1 is not readable. Figure 2 is hard to read
* Section 4
- As before, it would be helpful to have a picture that shows the tool architecture.
- As stated, section 4.2 is too high level to understand the details of the translation
* Section 5.
- As stated, I am missing the experimental validation here. A small example would work.