

Responses to Reviewers' Comments

for paper titled
Progress Concerns as Design Guidelines
by
Simon Hudon and Thai Son Hoang

Thanks We are in debt to the anonymous reviewers for their constructive comments of the paper. We have updated our paper accordingly and addressed the reviewers' concerns. Below are the summary of our updates with regards to the reviewers' comments.

Reviewer #1: 1. The availability of the proof-rules

In Section 5 (Conclusion), the authors say that "We expect to have more refinement rules to complement the current set of rules." So, it would be better to explain how powerful the proof-rules currently given in Theorems 1-6 are. For example, the assumptions in Theorems 6 and 7 are sufficient conditions, but are not necessary. Therefore, if an example which cannot be proved by the current rules is shown, it would be good information for readers. If current rules are already powerful enough to prove most of practical cases, it should be briefly stated.

Note: this comment does not request to construct the sound and complete rules. The reviewer also think that it is important to give some useful and practical rules, as given in this paper.

Response: We rephrase the paragraph to state more precisely that we expect to have separate rules for data refinement.

Reviewer #1: 2. Typos etc.

Response: The typos have been fixed. Thank you very much.

Reviewer #1:

(5) P.5, L.-11:

"... => X; s.t.e.v>"
==> "... => X; s.t.e.v'>"

Response: v is correct. The fresh variable e stores the before value v and v in $s.t.e.v$ represents the after value of v .

Reviewer #2: One point: I was mystified by the title. Indeed the paper does not really seem to offer Design Guidelines at all.

Response: We changed the title to "Systems Design Guided by Progress Concerns"

Reviewer #2: Minor typos

Response: The typos have been fixed. Thank you very much.

Reviewer #2: Pg 13, paragraph beginning We want to ... This was a slightly confusing discussion, because of the amount of infinitely oftens going on. Can you try to clarify?

Response: We rephrase the paragraph to explain our point better.

Reviewer #2: The paper is over length. Please dont cut the conclusions (which are useful). I would try condensing the initial presentation of the example (put the assumptions in a table, maybe? Condense the proof of Theorem 2 as well?

Response: We have reduced the size of the paper to 15 pages.

Reviewer #3: There is a lot in the paper. There is significant depth in the technical detail and sometimes it would have helped the reader to have some illustrating examples as we went through the paper. It is very important on page 5 to understand (14) before moving on.

Response: A running example with the introduction of Unit-B certainly improves the presentation. However, given the current size of the paper current, we would like to keep the space for more important details about our method and the main case study.

Reviewer #3: It was not so clear whether c in the c.t.v was a Cpred.

Response: We mention that g, c, f are state predicates.

Reviewer #3: An example is needed by the time we get to section 3.1. *Response:* Space problem again.

Reviewer #3: Minor typos

Response: The typos have been fixed. Thank you very much.

Reviewer #3:

Page 3 Defn 6 For all predicates

Page 3 Defn 8 For all state predicates

Response: Changed to *For any predicate* or *For any state predicate* (globally).