Dear Editors,

We are pleased to submit a research article entitled “An interleaving approach to combinatorial testing and failure-inducing interaction identification” which we wish to be considered for publication in the IEEE transactions on software engineering (TSE).

It should be pointed out that this work is a thorough improved version of a previous manuscript which has been suggested to “revise and resubmit as new” by TSE after the review process (major revision --> revise and resubmit as new). The reference number of the previous manuscript is TSE-2015-07-0208.R1.

After a careful understanding of the comments from the reviewers of TSE-2015-07-0208.R1., we have made a major revision to the previous manuscript. Our revision includes, but not limited to: 1) We augmented failure-inducing interaction identification approach with a novel feed-back checking algorithm, which significantly improved the scores of many metrics (for example, the accuracy of MFS identification, the tested-t-way-coverage) when compared with other approaches. 2) We conducted two more empirical studies to evaluate the impacts of non-safe value problem and un-deterministic failure problem on our approach, respectively. Our results showed that our approach can perform well under these two conditions, which is an evidence that our approach can be effectively applied in the practice. 3) We augmented our compared approach SCT by replacing the original covering array generation approach with a metaheuristic search-based algorithm. We also eliminated many unnecessary test cases generated by SCT, so that the new version of SCT is much better than the original one.

We thank you for considering this work and look forward to your response.

Sincerely

Xintao Niu