The Artifact Evaluation Recommended Practice Compendium (AERPC)

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Artifact evaluation has been established as a measure to foster reproducible research and reusable research artifacts. Although artifact evaluations have a long history in Software Engineering and Programming Languages research and numerous guidelines exist in "calls for artifacts" or community-specific process documentations, we frequently encounter deficiencies in both the evaluation and publication processes.

We propose to counter-act this development by creating a resource of recommended practices for artifact evaluations. In contrast to the community- and venue-specific interpretations that general guidelines like ACM's [1] encourage, we attempt to collect and document practices and recommendations from the growing number of communities that adopt artifact evaluations with the goal of acting as a source of inspiration for artifact evaluation chairs. The cross-community nature of the compendium is mainly motivated by the observation that progress in the methodology of artifact evaluation is made in all communities, but mostly in isolation. With the establishment of a central resource, we hope to establish a cross-community exchange and dialogue regarding the efficacy of established and emerging practices. In our presentation, we will

- review a number of differences in past and present artifact evaluation processes
- detail our experiences reviewing a large amount of published research artifacts
- specifically address a major concern regarding reproducibility of formal methods results that is not adequately addressed by existing artifact reviews

Regarding the last point, we will (with the consent of both authors and reviewers) discuss the case of a result reproduction failure for ECOOP 2022, which turned out to be due to performance deviations across execution platforms. We argue that a non-negligible part of formal methods research may be affected by similar issues, discuss possible solutions, and elaborate on their possible relevance for other communities.

Based on these observations, we invite contributions to and recommendations for the envisioned cross-community AERPC.

References

1. Association for Computing Machinery: Artifact Review and Badging — Current. https://www.acm.org/publications/policies/artifact-review-and-badging-current (2020), accessed: 2022-02-25