

Understanding Artifacts

Consent and Confidentiality

Thank you for your time today! This ten-minute survey is part of a research study conducted by Michael Hilton at Carnegie Mellon University. The goal of this study is to better understand why and how Software Engineering researchers choose to create and share artifacts as a part of disseminating research. The information will be used to provide guidance on how to improve the artifact process. For more information, see details and contact information below.

Would you like to continue?

- ☐ Yes
- ☐ No

If you have questions pertaining to your rights as a research participant; or to report concerns to this study, you should contact the Office of Research integrity and Compliance at Carnegie Mellon University. Email: irb-review@andrew.cmu.edu . Phone: 412-268-1901 or 412-268-5460.

Procedures

You will be asked to fill out a short survey describing your experiences with research artifacts, and asking for your perspective. The survey should take less than 10 minutes to complete.

Participant Requirements

Participation in this study is limited to individuals age 18 and older. You are being invited to participate because you have published at least one research paper in a Software Engineering conference in the last five years.

Risks

The risks and discomfort associated with participation in this study are no greater than those ordinarily encountered in daily life or during other online activities. While we will only store and work with the results in an anonymized manner, using external data, the data could be de-anonymized and your identity could be uncovered.

Benefits

There no personal benefit from your participation in this study

Compensation & Costs

There is no compensation for participation in this study.

There will be no cost to you if you participate in this study.

Future Use of Information

In the future, once we have removed all identifiable information from your data, we may use the data for our future research studies, or we may distribute the data to other researchers for their research studies.

We would do this without getting additional informed consent from you (or your legally authorized representative). Sharing of data with other researchers will only be done in such a manner that you will not be identified.

Confidentiality

By participating in this research, you understand and agree that Carnegie Mellon may be required to disclose your consent form, data and other personally identifiable information as required by law,

regulation, subpoena or court order. Otherwise, your confidentiality will be maintained in the following manner:

Your data and consent form will be kept separate. Your consent form will be stored in a secure location on Carnegie Mellon property and will not be disclosed to third parties. By participating, you understand and agree that the data and information gathered during this study may be used by Carnegie Mellon and published and/or disclosed by Carnegie Mellon to others outside of Carnegie Mellon. However, your name, address, contact information and other direct personal identifiers will not be mentioned in any such publication or dissemination of the research data and/or results by Carnegie Mellon. Note that per regulation all research data must be kept for a minimum of 3 years. No annotation services will be used.

Right to Ask Questions & Contact Information

If you have any questions about this study, you should feel free to ask them by contacting the Principal Investigator now at Dr. Michael Hilton, Institute for Software Research, School of Computer Science, mail: Carnegie Mellon University, 5000 Forbes Ave, Pittsburgh PA, 15213, phone: (412) 268-7671, email: mhilton@cmu.edu. If you have questions later, desire additional information, or wish to withdraw your participation please contact the Principal Investigator by mail, phone or e-mail in accordance with the contact information listed above.

Voluntary Participation

Your participation in this research is voluntary. You may discontinue participation at any time during the research activity. You may print a copy of this consent form for your records. **By opting to continue below, I confirm that I am age 18 or older; that I have read and understand the information above; and that I do want to participate in this research and continue with the survey.**

Section 1: Artifact Creation

Which would you say **best** describes your **primary** role?

- ☐ Academic Researcher
- ☐ Industrial Researcher
- ☐ Industrial Practitioner

So that we can better understand your experience with software engineering artifacts, **roughly** how many publications have you authored?

- ☐ None
- ☐ 1 to 3
- ☐ 4 to 6
- ☐ 7 to 9
- ☐ 10 or more

For the purposes of this questionnaire, we define an **artifact** as **any external materials or information provided in conjunction with a research paper**. In practice, this consists of any materials developed by authors and linked to from a research paper. For example, this would include replication packages, tools/source code, companion sites, benchmarks, raw data, survey instruments and results, mechanized proofs, and more.

Have you ever published a paper that included an artifact?

☐ Yes

☐ No

Why have you found that publishing artifacts was not the right choice?

Consider your most recently published paper in which you shared an artifact. Select all the reasons below for which you shared that artifact:

- ☐ As a replication package
- ☐ As tools or code to accompany a paper
- ☐ To provide a companion site
- ☐ To provide extra data that doesn't fit in the paper (e.g., survey results)
- ☐ To provide additional information to the reviewer(s)
- ☐ A supervisor, collaborator, or advisor insisted on it
- ☐ Other

Consider up to your three most recent papers published in a software engineering venue. Was there an artifact shared with any of these papers?

- ☐ Yes, an artifact was shared with all of them
- ☐ Yes, an artifact was shared with some of them
- ☐ No, no artifacts were shared with my most recently published papers

Consider up to your three most recently published papers. State all of the reasons below for which you chose not to (or were unable to) create or share an artifact associated with those papers:

Consider up to your three most recently published papers. Did you experience any difficulties or challenges when **creating** artifacts associated with those papers?

- ☐ Yes. I experienced these challenges:

- ☐ No

Have you ever submitted to an artifact evaluation committee?

- ☐ Yes
- ☐ No, because I have not had the opportunity to submit to an artifact evaluation committee.
- ☐ I chose not to submit to an artifact evaluation committee because:

Section 2: Artifact Use

The next few questions deal with artifact use. As a reminder, we define an **artifact** as **any external materials or information provided in conjunction with a research paper**. In practice, this consists of any materials developed by authors and linked to from a research paper. For example, this would include replication packages, tools/source code, companion sites, benchmarks, raw data, survey instruments and results, mechanized proofs, and more.

For which of the following reasons have you used an artifact created by someone else? (Select all that apply)

- ☐ To obtain supplementary information for a research paper.

- ☐ To obtain the necessary tools and/or data to replicate the findings of a research paper.
- ☐ To obtain benchmark data or results to compare against.
- ☐ For teaching purposes.
- ☐ I have never used an artifact from a research paper other than my own.
- ☐ Other:

What challenges have you faced when trying to use an artifact other than your own? (Select all that apply)

- ☐ I have never tried and failed to use an artifact.
- ☐ A lack of clear instructions for using the artifact.
- ☐ A lack of clear instructions for building the artifact.
- ☐ The artifact was no longer accessible.
- ☐ I couldn't build the artifact due to an unavailable piece of software, library, or compiler.
- ☐ I couldn't run the artifact due to a missing package, library, tool, or piece of software.
- ☐ I encountered a run-time error when using the artifact.
- ☐ I had to modify the source code of the artifact.
- ☐ I had to re-implement the artifact.
- ☐ Other

What are the most important things that an artifact should have, be, or do? (List up to three characteristics, and please specify the type of artifact they apply to)

A large, empty rectangular box with a thin gray border, intended for the user to list characteristics of an artifact. A small double-slash icon is visible in the bottom right corner.

Section 3: Artifact Evaluation

Have you ever evaluated artifacts as a member of an Artifact Evaluation Committee?

- ☐ Yes
- ☐ No

List up to three problems or challenges with the artifact evaluation process that you are aware of as a former member of an AEC:

A large, empty rectangular box with a thin gray border, intended for the user to list problems or challenges with the artifact evaluation process. A small double-slash icon is visible in the bottom right corner.

List up to three ways that the artifact evaluation process could be improved:

A large, empty rectangular text box with a thin gray border, intended for users to list up to three ways the artifact evaluation process could be improved. A small double-slash icon is visible in the bottom right corner.

Final Thoughts on Artifacts

What other positive or negative experiences with artifacts do you think we should know about?

A large, empty rectangular text box with a thin gray border, intended for users to share other positive or negative experiences with artifacts. A small double-slash icon is visible in the bottom right corner.