

Sinatra: Stateful Instantaneous Updates for Commercial Browsers Through Multi-Version eXecution (Artifact)

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— Abstract —

This document describes the artifact for the paper [Commercial Browsers through Multi-Version eXecution](#).
SINATRA: Stateful Instantaneous Updates for Com-

2012 ACM Subject Classification Computer systems organization → Availability; Software and its engineering → Maintaining software

Keywords and phrases Internet browsers, dynamic software updating, multi-version execution

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Evaluation Policy The artifact has been evaluated as described in the ECOOP 2023 Call for Artifacts and the ACM Artifact Review and Badging Policy.

1 Scope

- We describe each table in detail below, together with how to generate it using the data reported in the paper, or using fresh data obtained from re-running the experiments.
- The source matches the snippets shown in Sections 3 and 4 of the paper. For instance, it should be easy to find where `SINATRA` intercepts `HTMLDocument.prototype.addEventListener` and change that code to do something else (e.g., install an event handler on all elements from the target up to the document root)

2 Content

The artifact package includes:

- All data obtained from our experiments and reported in the paper, together with scripts to generate the tables on the paper. Below we describe how to generate each table in the paper from data contained in the artifact.



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- Scripts to run all the experiments described in the paper, together with scripts to process that data and generate new tables. Below we describe how to re-run each experiment described in the paper, and how to process the data generated by that experiment.
- Source to our tool, SINATRA, which we describe below. The source is well commented. The source matches the code snippets in the paper (the paper may be a bit more compact than the actual source). Future research can build on this artifact by editing the Javascript source for SINATRA and seeing the results immediately by rerunning our experiments.
- All the automated workloads for the benchmarks. Future research can evaluate SINATRA (or a modification to SINATRA) in a different workload by modifying our automated scripts that simulate user interaction.

3 Getting the artifact

The artifact endorsed by the Artifact Evaluation Committee is available free of charge on the Dagstuhl Research Online Publication Server (DROPS). In addition, the artifact is also available at: <https://zenodo.org/record/7647070> and <https://github.com/bitslab/sinatra>

4 Tested platforms

VMWare/VMPlayer version 17.0.2 build-21581411 and VirtualBox version 7.0.8 r156879.

5 License

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6 MD5 sum of the artifact

0e0572c809543abacc9ad97790a0ff85

7 Size of the artifact

9.8 GiB