

ContextWorkflow: A Monadic DSL for Compensable and Interruptible Executions (Artifact)

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Abstract

This artifact provides the Scala, Haskell, and Purescript implementations of ContextWorkflow, an embedded domain-specific language for interruptible and compensable executions, and demonstrates the maze search example described in the companion paper. The Haskell and Purescript implementations provide the core language constructs includ-

ing `checkpoint` for partial aborts and `sub` for sub-workflows and show that ContextWorkflow can be embedded in eager and lazy languages as described in the companion paper. The Scala implementation does not only provide user-friendly syntax of ContextWorkflow but also gives the maze search example as an interactive GUI application.

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1 Scope

The artifact is designed to support the feasibility of (1) our monadic embedding of ContextWorkflow to eager and lazy languages and (2) the maze search example given in the companion paper.

2 Content

The artifact package includes:

- A virtual machine image `ContextWorkflow.ova` that contains under `/home/cworkflow/contextworkflow`
 - Scala, Haskell, and Purescript implementations of ContextWorkflow with tiny test programs
 - The maze search robot simulator with GUI
- A zip archive `cw-sources.zip` that contains the source code of the three implementations
- A document `artifact.pdf` that provides instructions for running the implementations
- The md5 sums of the three files

¹ The current affiliation is Mitsubishi Electric Corporation.



4:2 ContextWorkflow (Artifact)

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).

4 Tested platforms

The artifact disk image is known to work on any platform running Oracle VirtualBox version 5 (<https://www.virtualbox.org/>) with 5 GiB of free disk space and 2 GiB of free RAM.

5 License

The artifact is available under MIT license.

6 MD5 sum of the artifact

5cbb66a47d17e765b82d738e5532c951

7 Size of the artifact

3.6 GiB

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