noWorkflow

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Provenance for Python Scripts!

Provenance: all the data that aids the reproducibility of Python scripts

E.g.: input and output files, function definitions, function activation graph, etc.

noWorkflow

Transparently captures the provenance of a script

Language-independent approach
Language-dependent solution (Python)

Non-intrusive: no need for user-defined annotations, instrumented environment, or other requirements

Provides different methods for ***provenance analysis***

History Graph
Diff Analysis
Querying (Prolog and SQL)
Visualization of Trials
Jupyter Notebook

How does noWorkflow work?

Instead of running

```
$ python my_script.py
```

users run

```
$ now run my_script.py
```

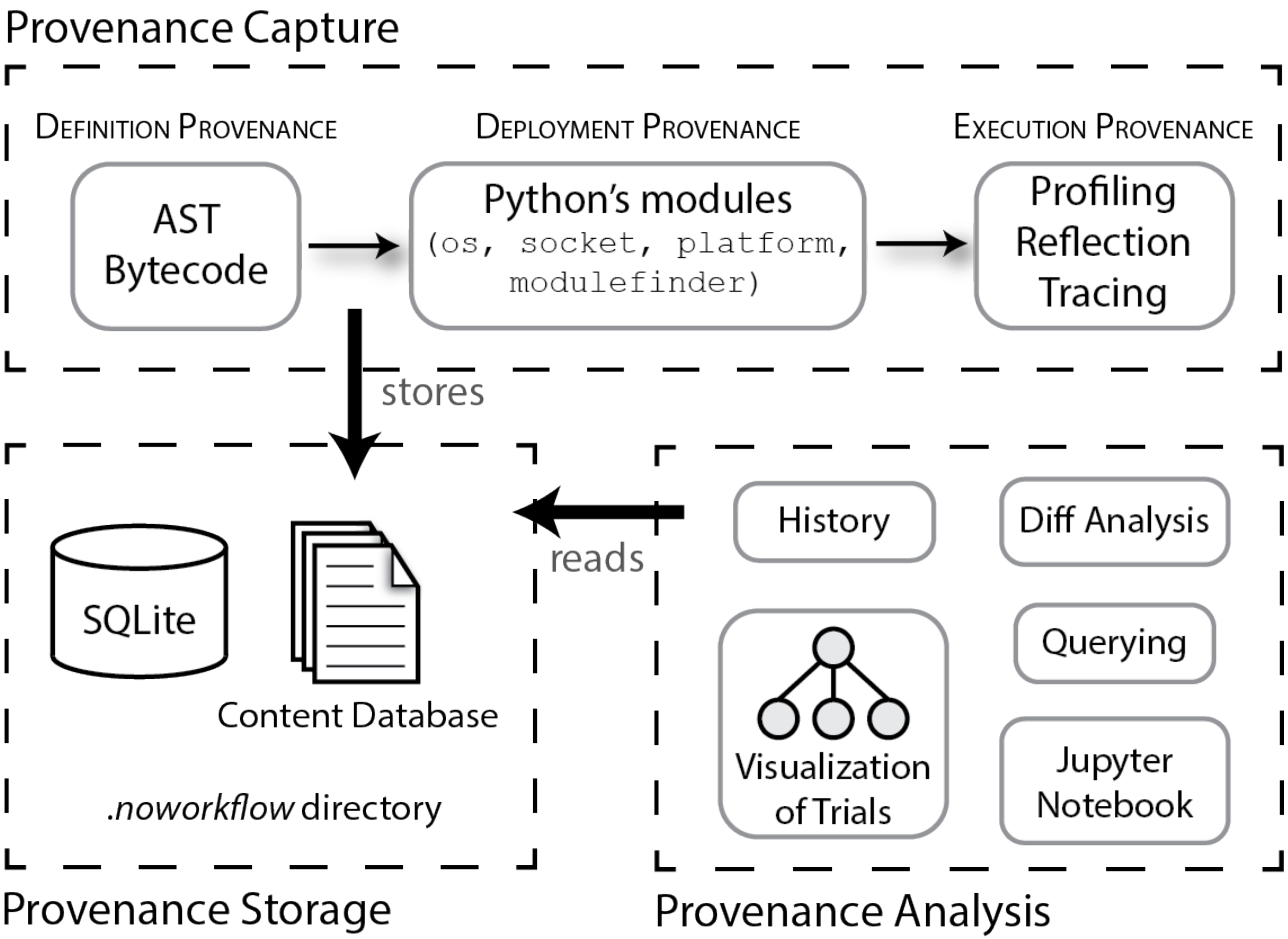
That’s it.

Reproducibility Modes

- Planning for reproducibility
  - Replace Python with noWorkflow
  - Use noWorkflow for the entire experiment's lifetime

- Reproducibility after the fact
  - Capture a run after the experiment is ready for publication

Architecture



Try it!

Website: *https://github.com/gems-uff/noworkflow*

L. Murta, V. Braganholo, F. Chirigati, D. Koop, and J. Freire: *noWorkflow: Capturing and Analyzing Provenance of Scripts*. In Provenance and Annotation of Data and Processes, vol. 8628, Lecture Notes in Computer Science (LNCS), pp. 71-83, Springer International Publishing, 2015

J. F. N. Pimentel, J. Freire, L. Murta, V. Braganholo: Collecting and Analyzing Provenance on Interactive Notebooks: when IPython meets noWorkflow. In: Theory and Practice of Provenance (TaPP), 2015

Send your feedback and interesting use cases!

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