Online DQ/ Online Reconstruction/ Online Analyses/ Online Monitoring

Chris Tunnell


Manchego
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What is Manchego?

- **MANCHEGO**: **M**anchego is **A**nalysis **N**o-nonsense **C**ontrolroom **H**elping **E**xistentially **G**uided **O**nlineness

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- **MANCHEGO**: **M**anchego is **A**nalysis **N**o-nonsense **C**ontrolroom **H**elping **E**xistentially **G**uided **O**nlineness
- What the $#@! does that mean?!

SHORT DISCUSSION ON SETTING PRIORITIES FOR THE AGENDA

remaining Step I and EMR run plan

EMR commissionning data
EMR performance data
Proton absorber, neutrals, rates, optimization of energy spread distribution

Step IV run plan

MICE and Tracker commissionning/performance data
Beam (diffuser)
Optics
Absorber commissioning/performance data and analysis

Online reconstruction and analysis
an interesting case for defining the interface between software and analysis

Magnetic
Etc… your suggestions

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a.k.a. online data-quality

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I = somebody else

SOFTWARE.AC.UK

The Software Sustainability Institute

Software is not static. New functionality is needed, hardware evolves, staff come and go and sources of funding change. To survive in this volatile environment, software developers must respond to changes and act to ensure that their users get the best from their software

The Software Sustainability Institute can help ensure a future for your software. We will work with your project and use our expertise in software development, project management and community building to further your research.

The Software Sustainability Institute works with researchers to identify and shape the software considered to be important to research. We provide a range of free and paid-for services which ensure that software is maintained, made available to a wider user base and its potential for sustainability is maximised.

If you would like to work with us, please contact info@software.ac.uk.

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I graduated way back in 1989 with a BSc (1st Class Hons) in Physics/Theoretical Physics from the University of St Andrews. I then spent a year in Cambridge, doing Part III of the Maths Tripos and falling off punts before coming to the University of Edinburgh in 1990 to join the Particle Physics Theory Group. I completed my PhD in lattice QCD in 1993 and subsequently joined EPCC.

Along the way, I've managed to collect a small list of publications.

These days I co-manage the Software Development Group at EPCC, around 30 staff involved in commercial and scientific software development. Some recent projects I've looked after include:

- SSI: the UK's Software Sustainability Institute;
- ADMIRE: advanced data mining and Internet-scale data integration;
- Maxwell: how to build a supercomputer out of FPGAs;
- Condition-based Monitoring, with ITI Techmedia.

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Dr Michael Jackson

Principal Consultant

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My role at EPCC is Software Architect. I have two main roles:

- Technical lead and development on the OGSA-DAI project: www.ogsadai.org.uk
- Technical reviewer on the BEinGRID project: www.beingrid.eu

Other projects I have been involved in at EPCC include:

- Project lead on the MS.NETGrid project
- Developer on a project to develop a Java-based scheduler for Arran Aromatics Ltd.
- Technical reviewer on the Calman and GoldenCrumb II projects.

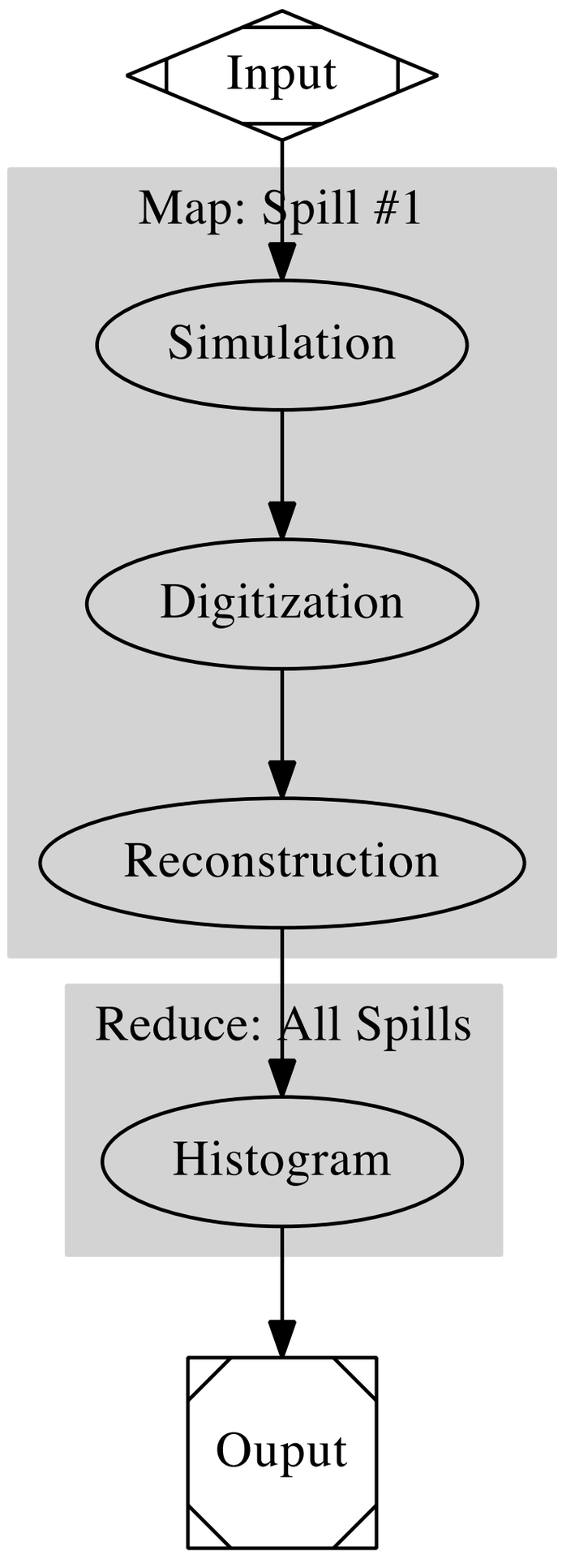
Management

- Work plan, risk register, timescales and milestones: http://micewww.pp.rl.ac.uk/projects/maus/wiki/MAUSSSI
- Work package: http://micewww.pp.rl.ac.uk/issues/691
- Component design: http://micewww.pp.rl.ac.uk/projects/maus/wiki/MAUSSSIComponentDesign

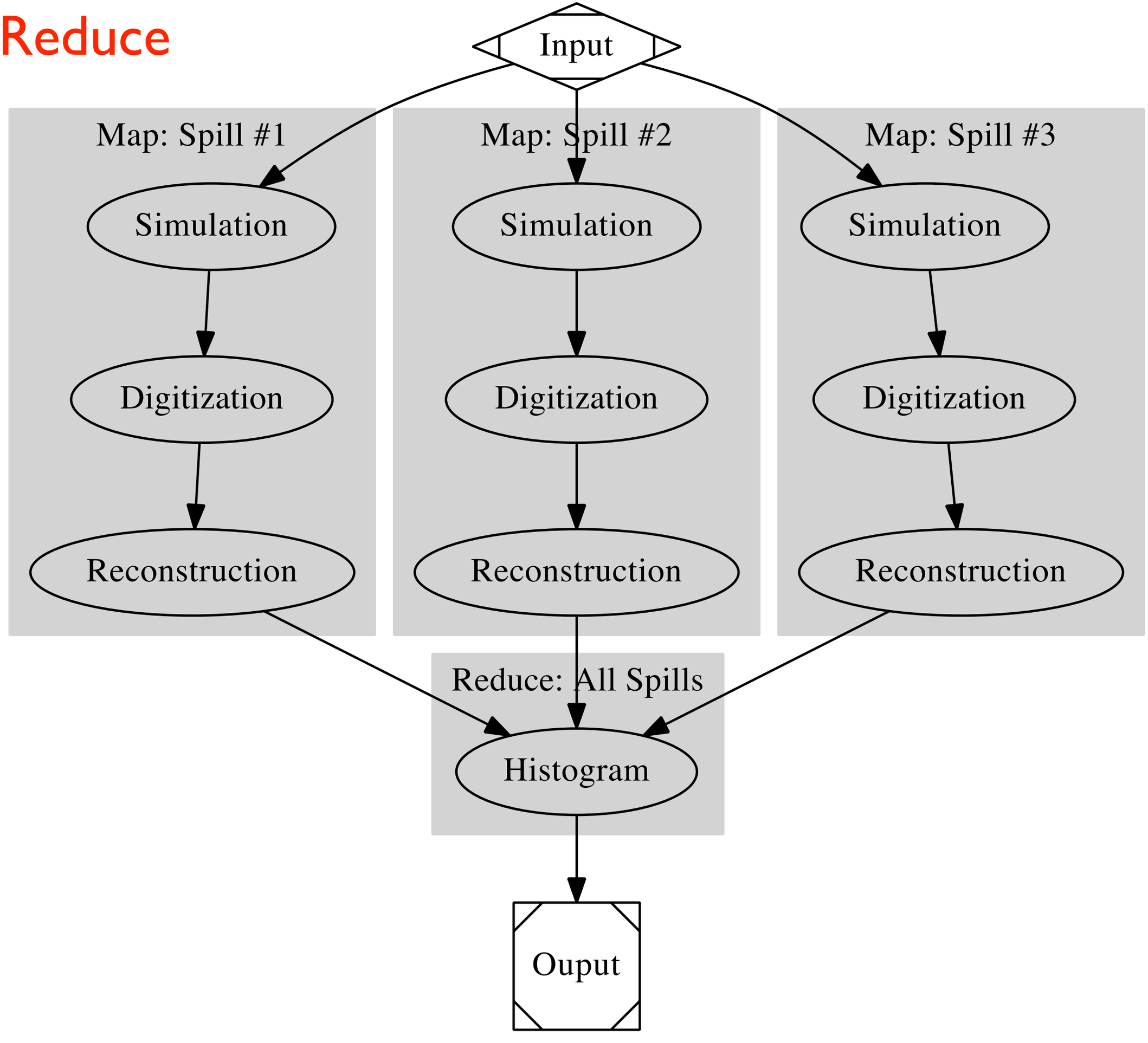
The work

1. Making plots
2. Online dataflow
3. Displaying plots
4. Parallelization (ie. could bring in laptops!)

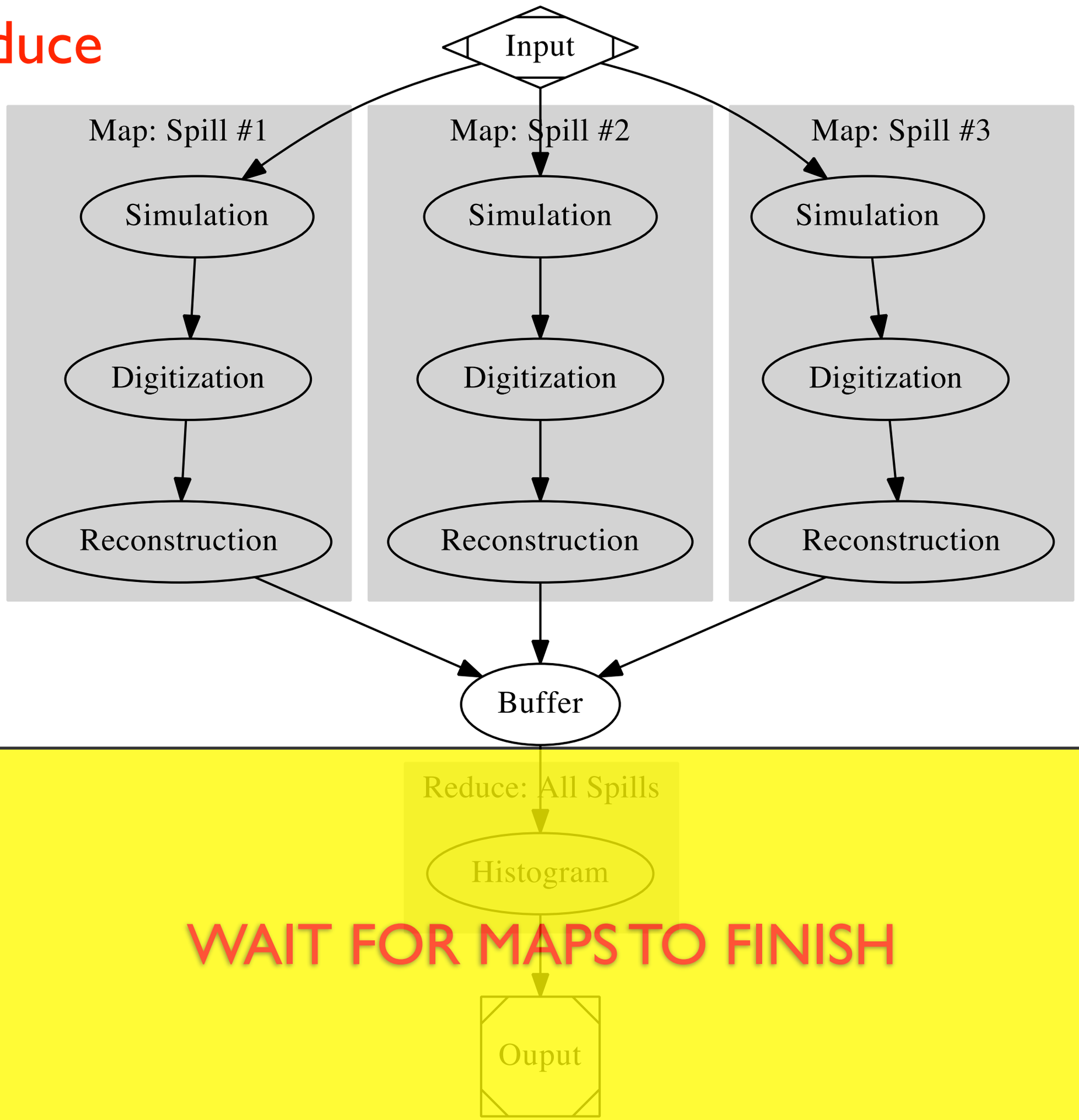
Offline Pipeline



Map Reduce

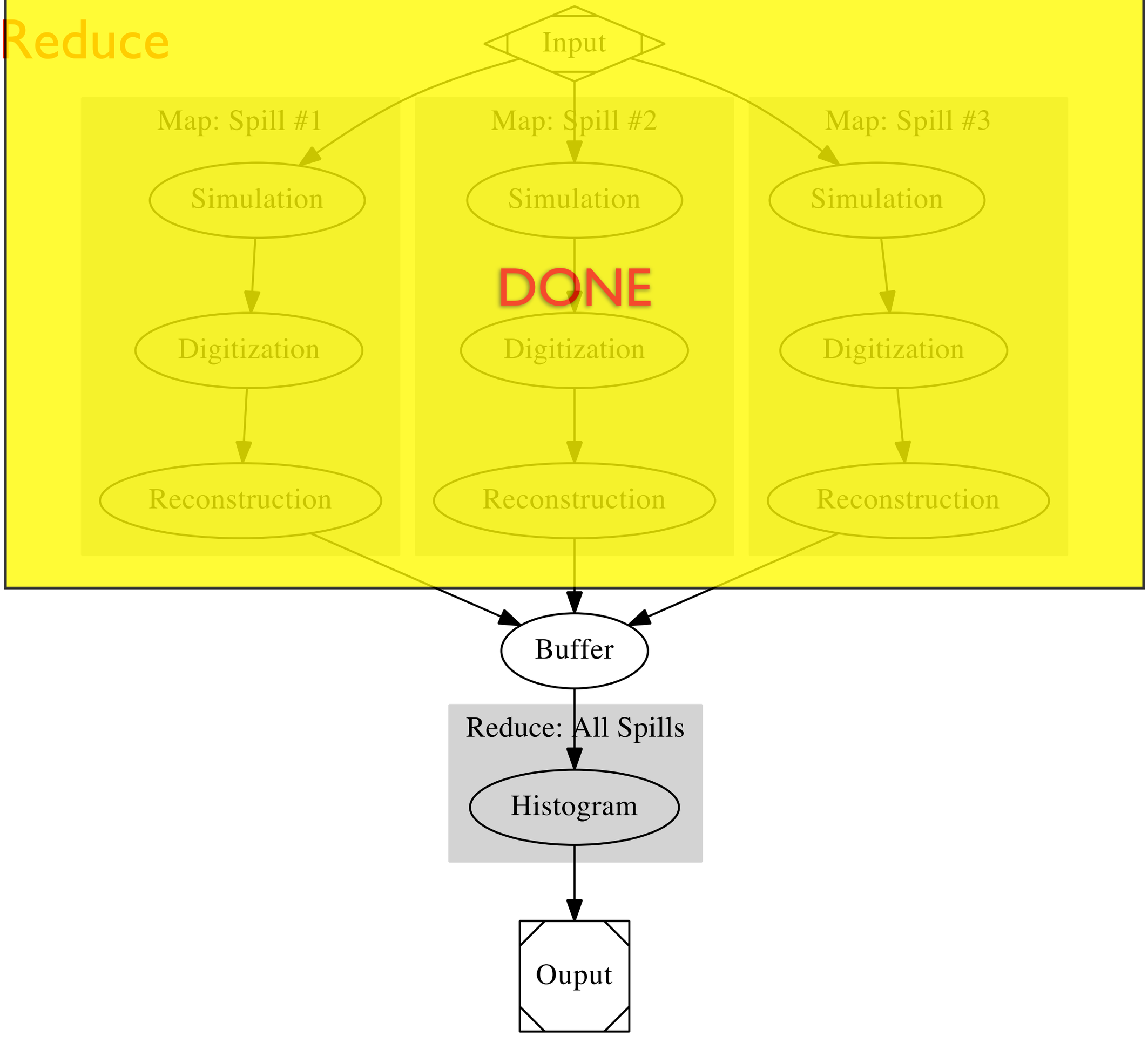

Input
Map: Spill #1
Simulation
Digitization
Reconstruction
Map: Spill #2
Simulation
Digitization
Reconstruction
Map: Spill #3
Simulation
Digitization
Reconstruction
Reduce: All Spills
Histogram
Ouput

Map Reduce

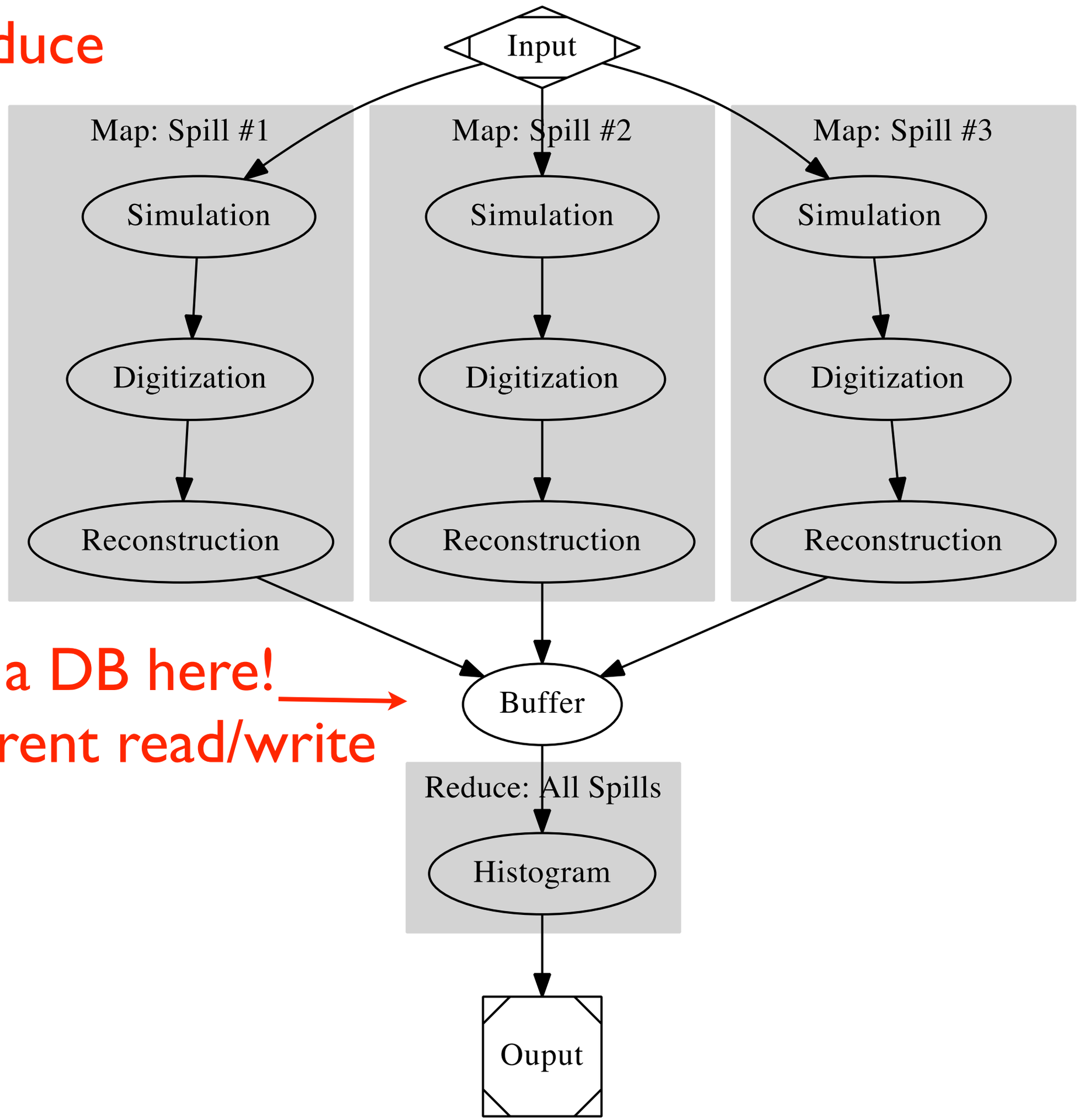


WAIT FOR MAPS TO FINISH

Map Reduce


Input
Map: Spill #1
Map: Spill #2
Map: Spill #3
Simulation
Simulation
Simulation
DONE
Digitization
Digitization
Digitization
Reconstruction
Reconstruction
Reconstruction
Buffer
Reduce: All Spills
Histogram
Ouput

Map Reduce

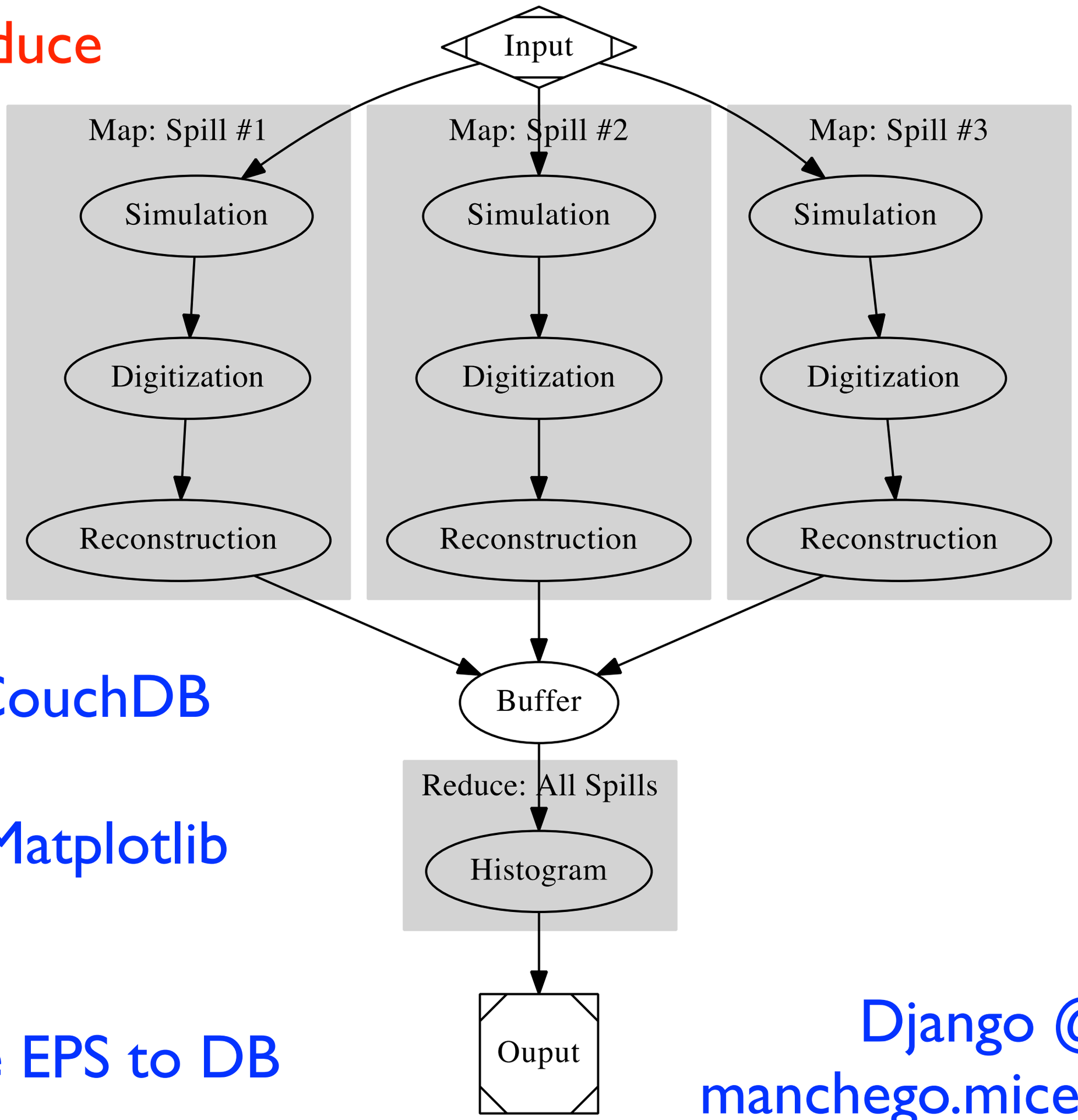


Put a DB here!

Concurrent read/write

Map Reduce

Celery



CouchDB

Matplotlib

Save EPS to DB

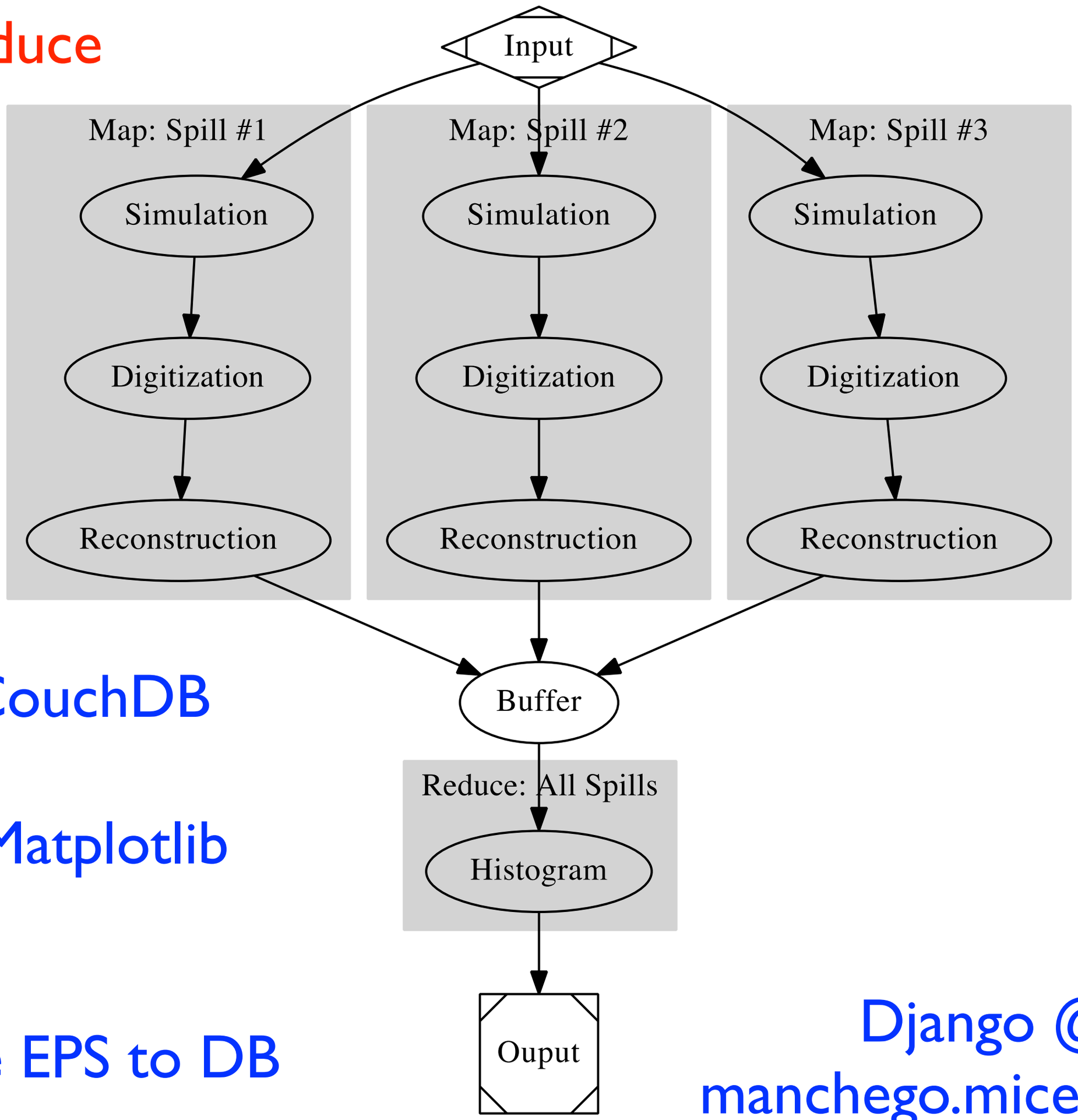
Django @ manchego.mice.rl.ac.uk

Clarifications

- We make infrastructure and demo plots: ie. stuff for the 'detector'/MAUS part of my thesis
- We make it easy to add your own plots
- We do not figure out what plots you want
- We will not be around for Step 4

Map Reduce

Celery



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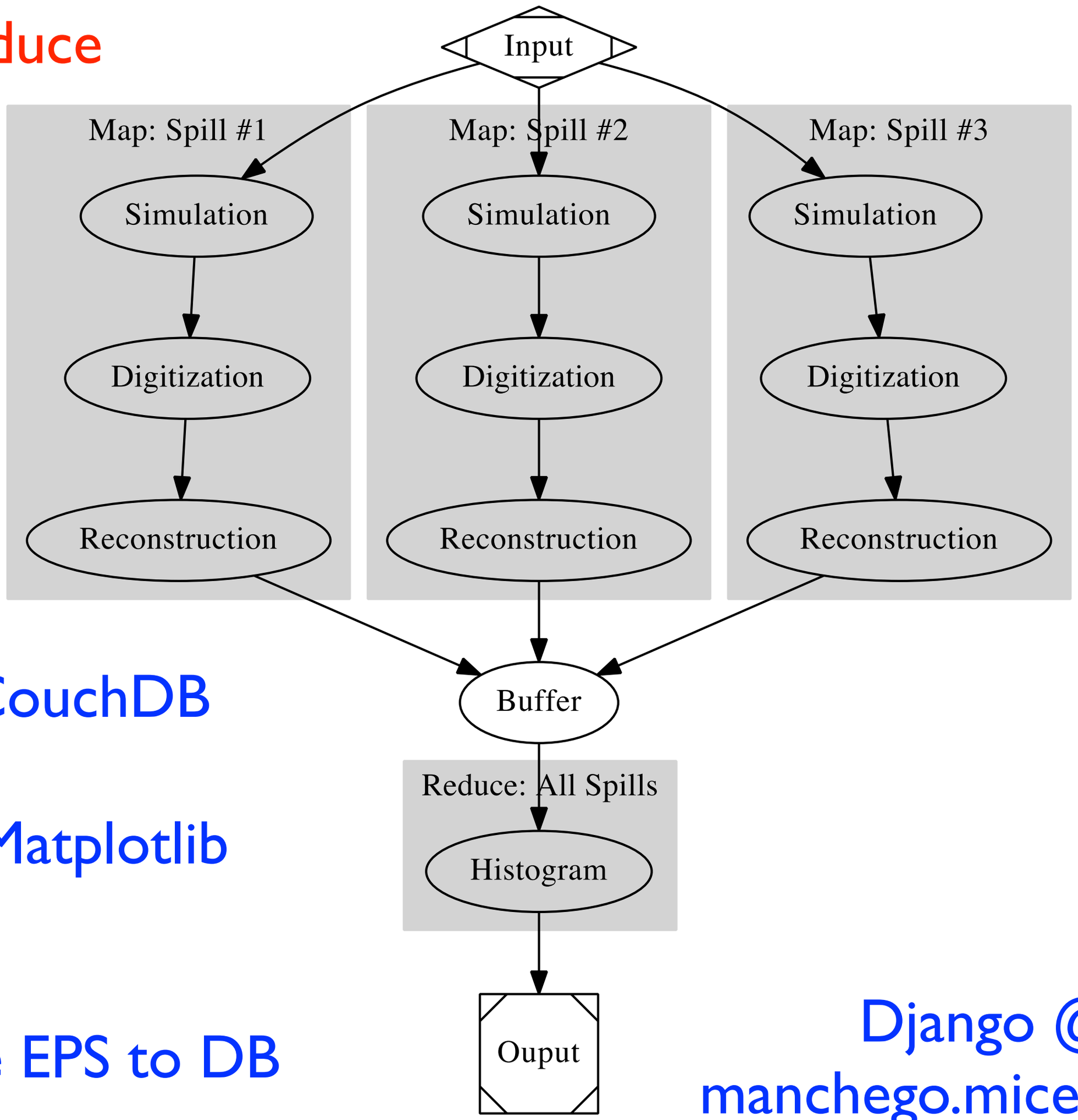
Oh

- And if the TOF code is suitably moved and understood in MAUS, then we don't need G4MICE. Should be but outside of my work scope.

Map Reduce

Celery



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