

Fitting programming processes into workflows on systems

Is the square peg in a round hole?

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Ephicity

Objective

How to fit a real-world programming process into a system (SCE) as a workflow

Agenda

- What system?
- Workflow concepts
- Fitting a sample workflow
- Conclusion

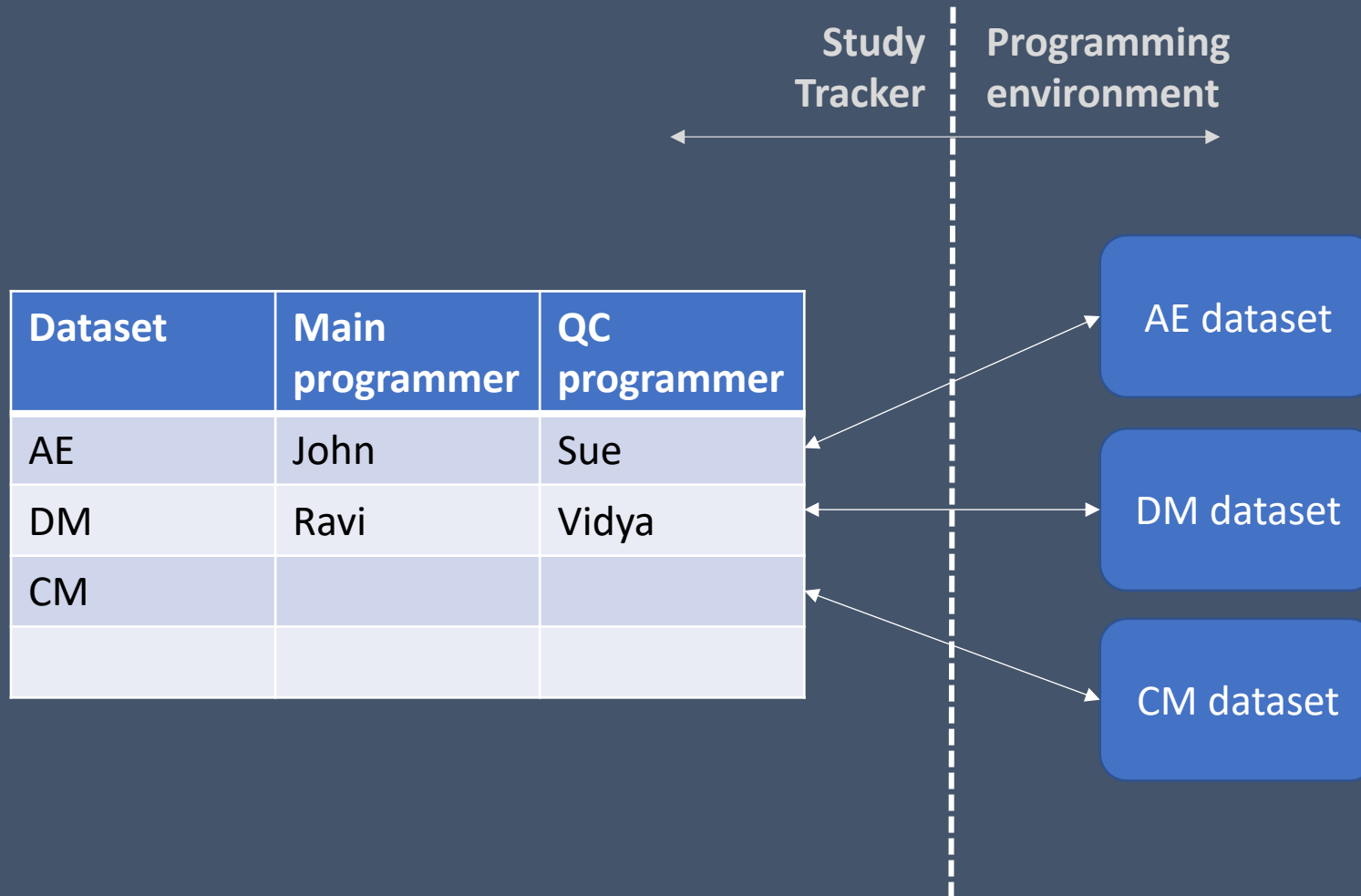
The Conventional System



Programming tracker



Conventional Project Tracking



Enhanced Project Tracking

Statistical Computing Environment (SCE)

Dataset	Main programmer	QC programmer
AE	John	Sue
DM	Ravi	Vidya
CM		

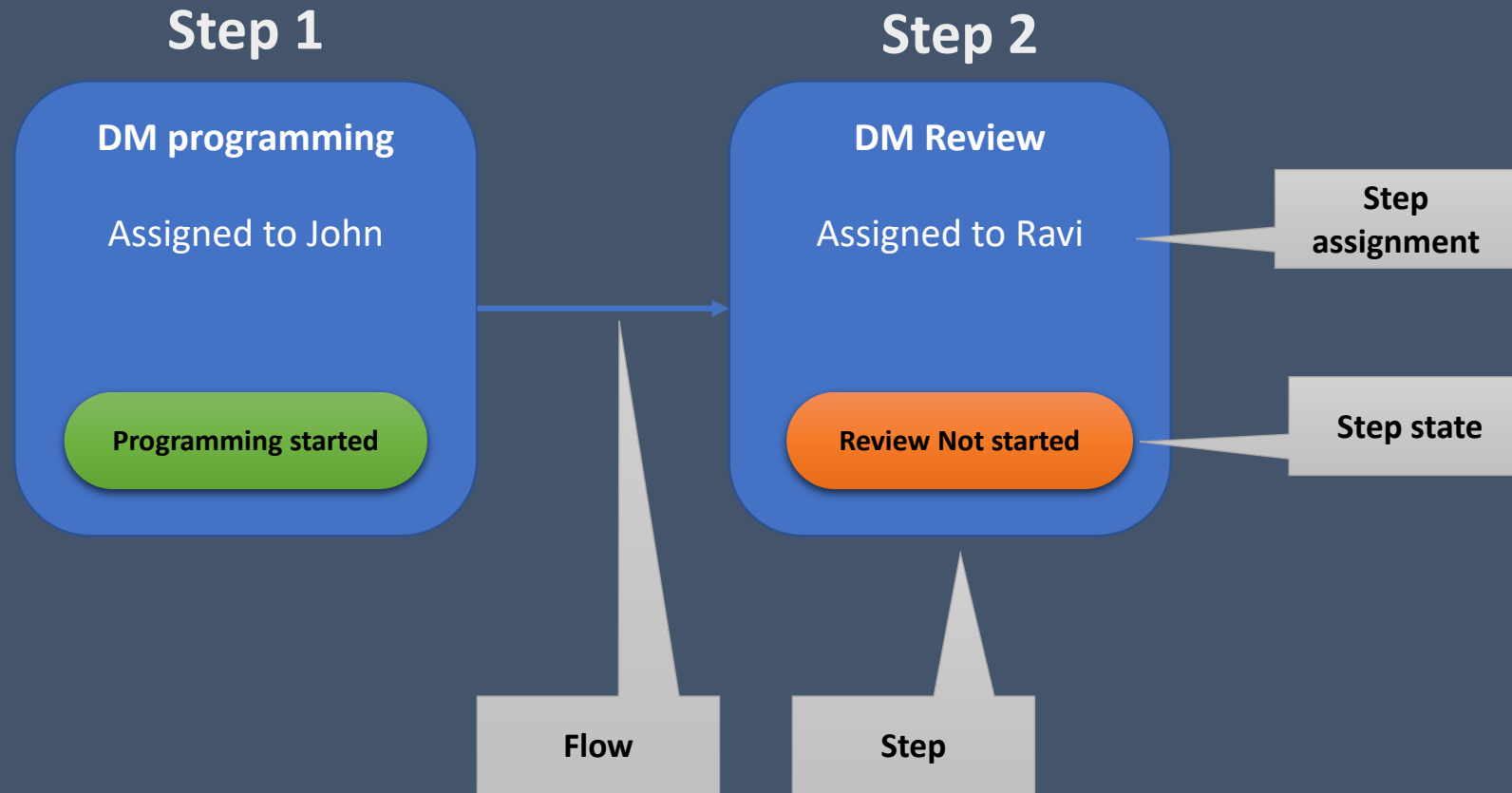
AE dataset

DM dataset

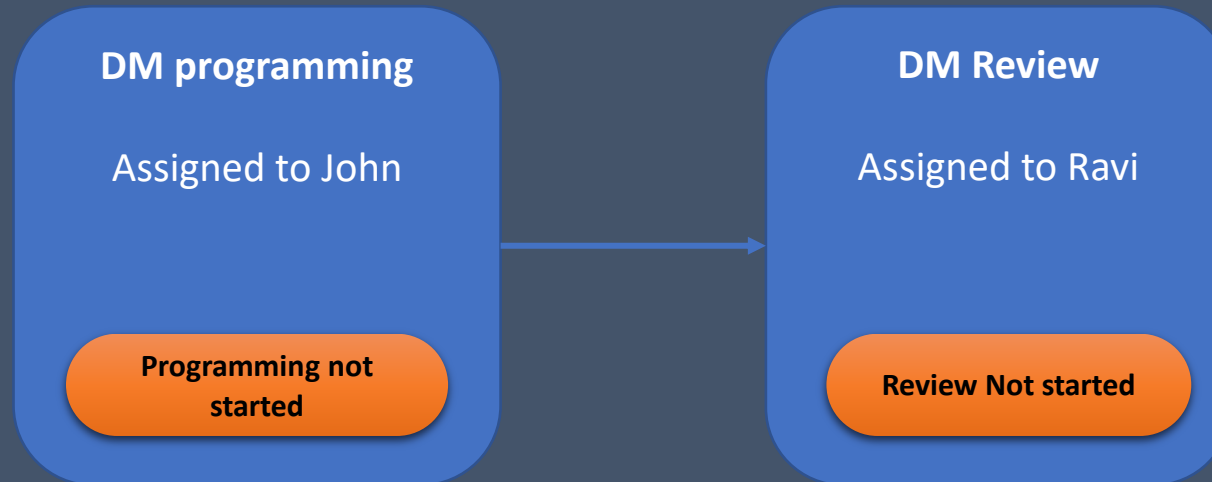
CM dataset

Program Editor

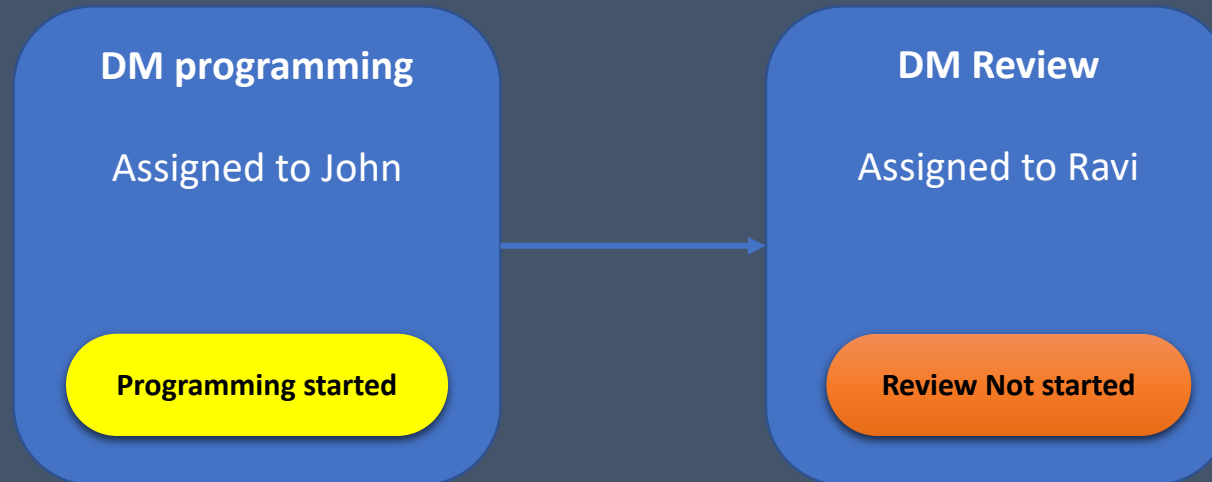
Workflows for Project Tracking



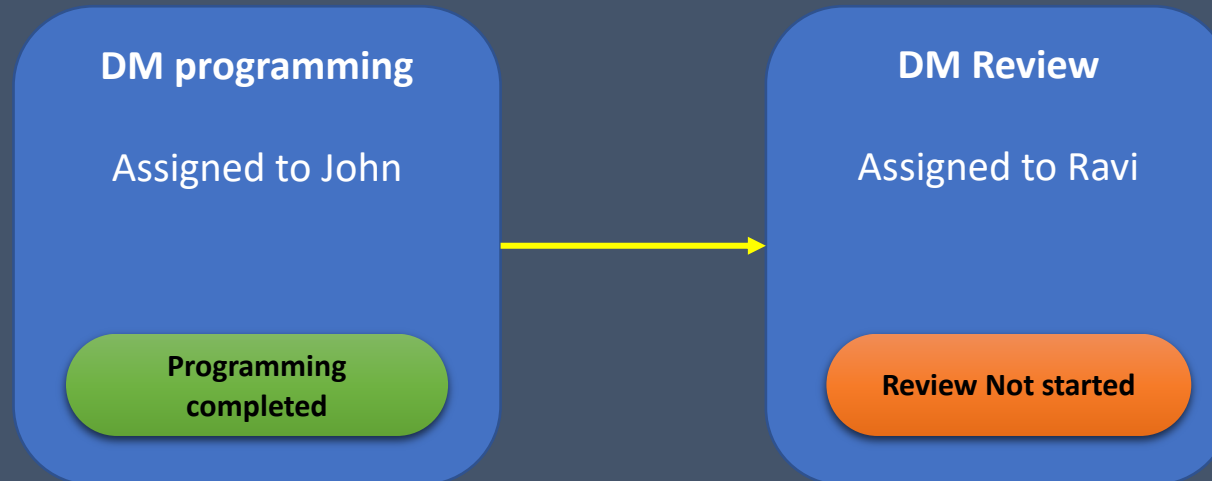
State Diagram – Stage 1



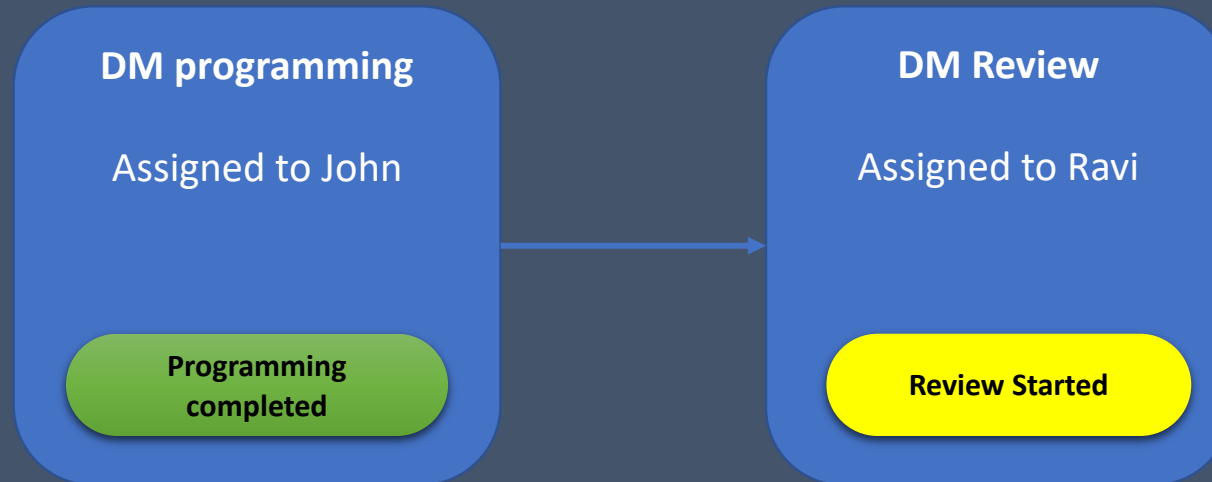
State Diagram – Stage 2



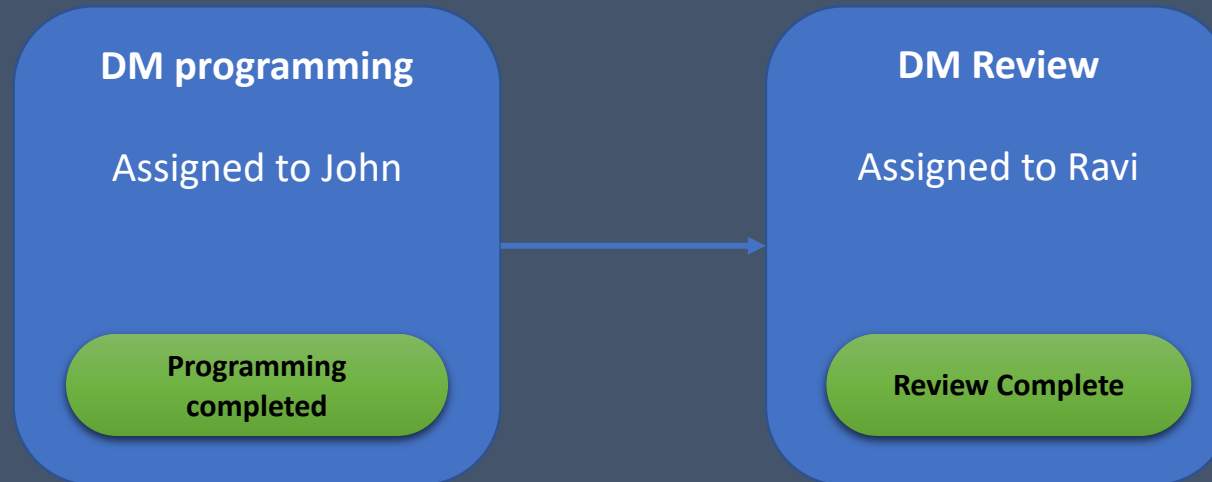
State Diagram – Stage 3



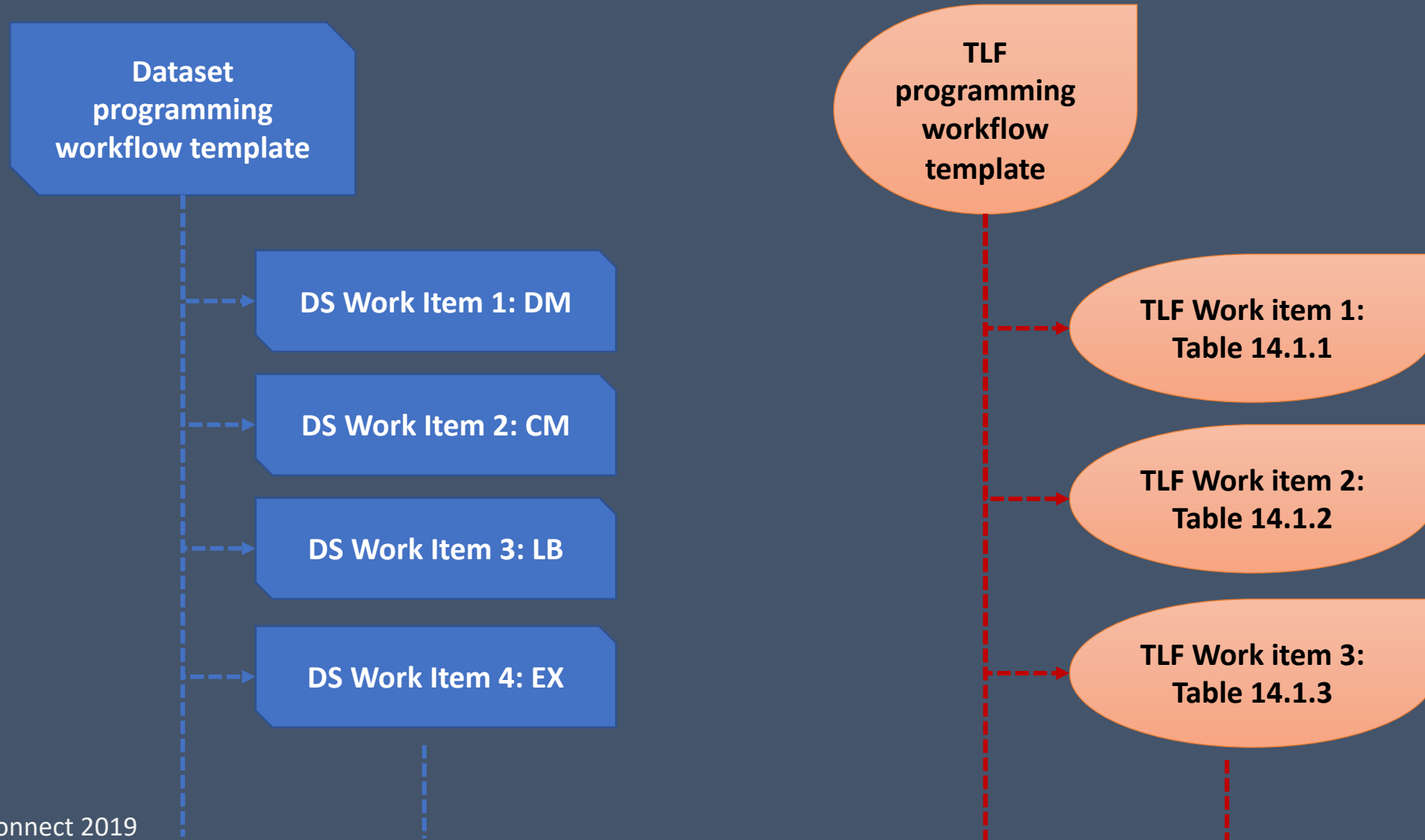
State Diagram – Stage 4



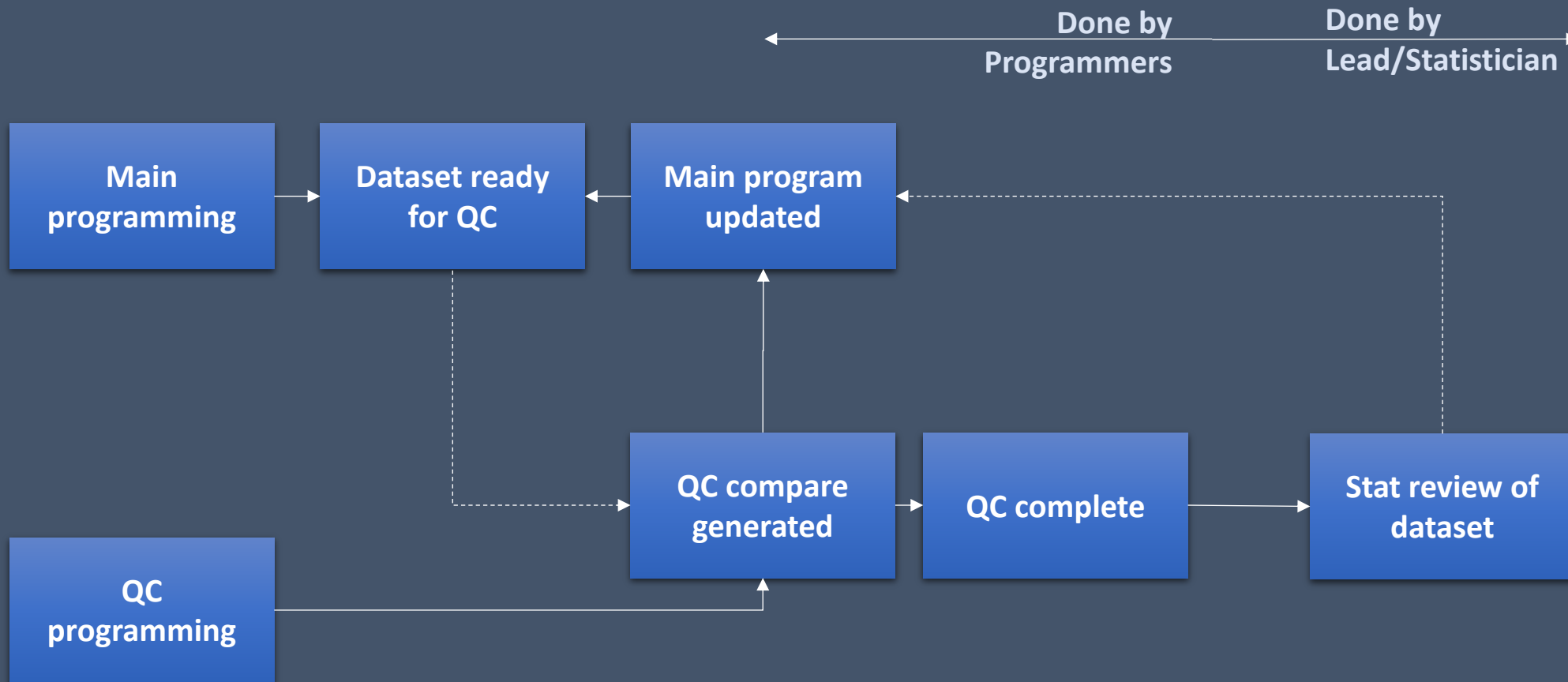
State Diagram – Stage 5



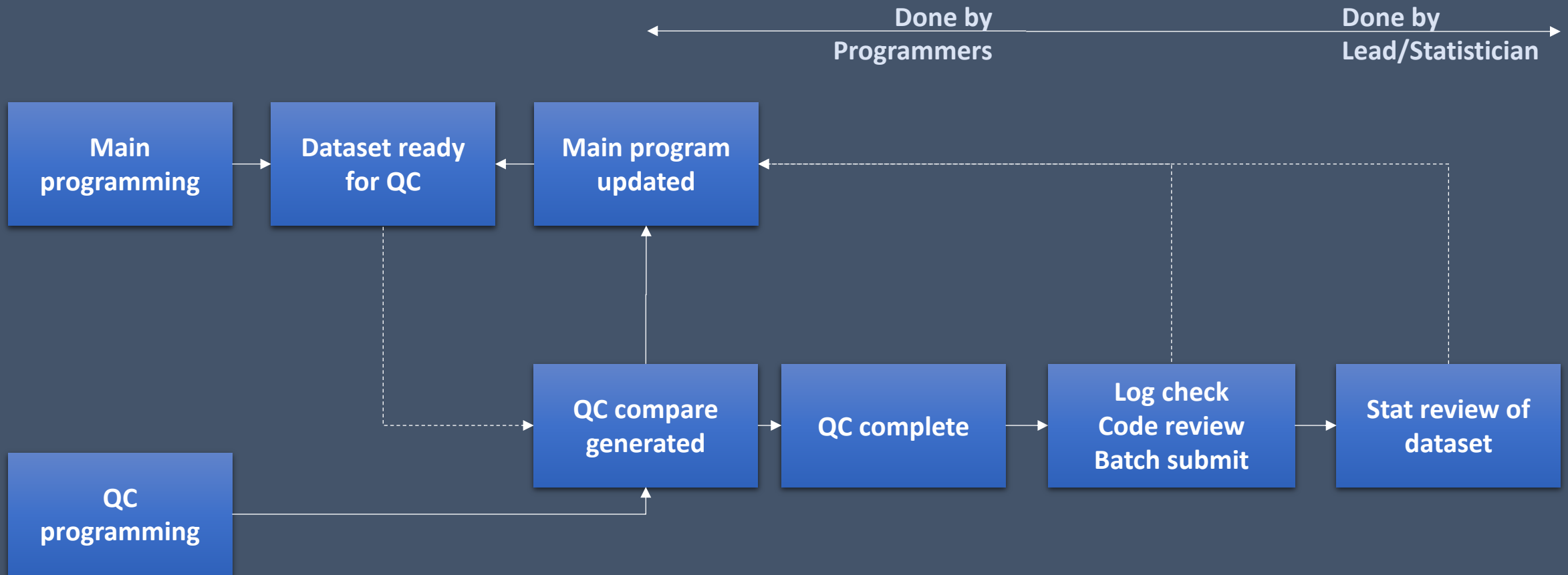
Work Items for a workflow



The Dataset Programming Process



The Dataset Programming Process



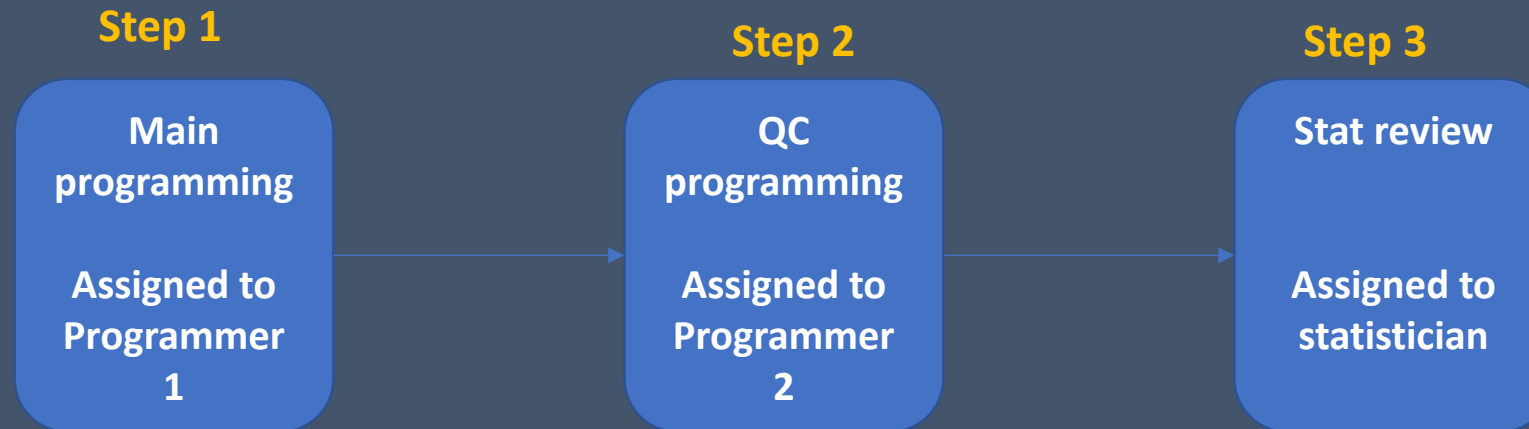
Assumptions

- Process Assumptions:
 - No code review or log checks
 - Dataset spec is ready (no review step)
- System (SCE) assumptions:
 - Allows customization
 - Only 2 types of steps – sequential and parallel

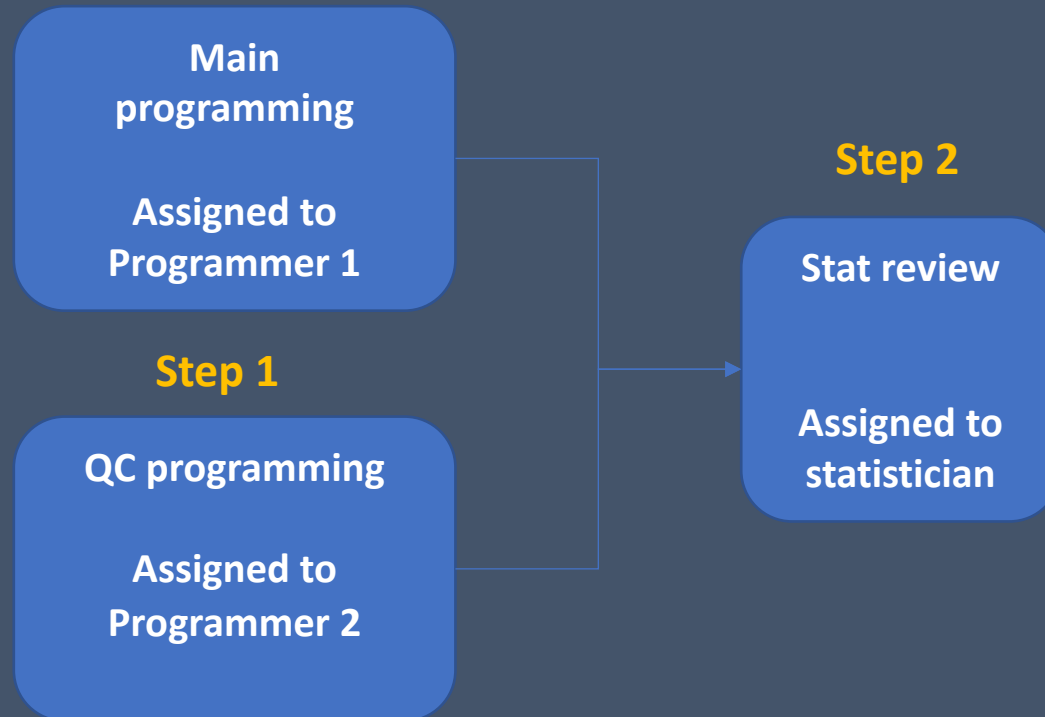
Workflow Version 1.0



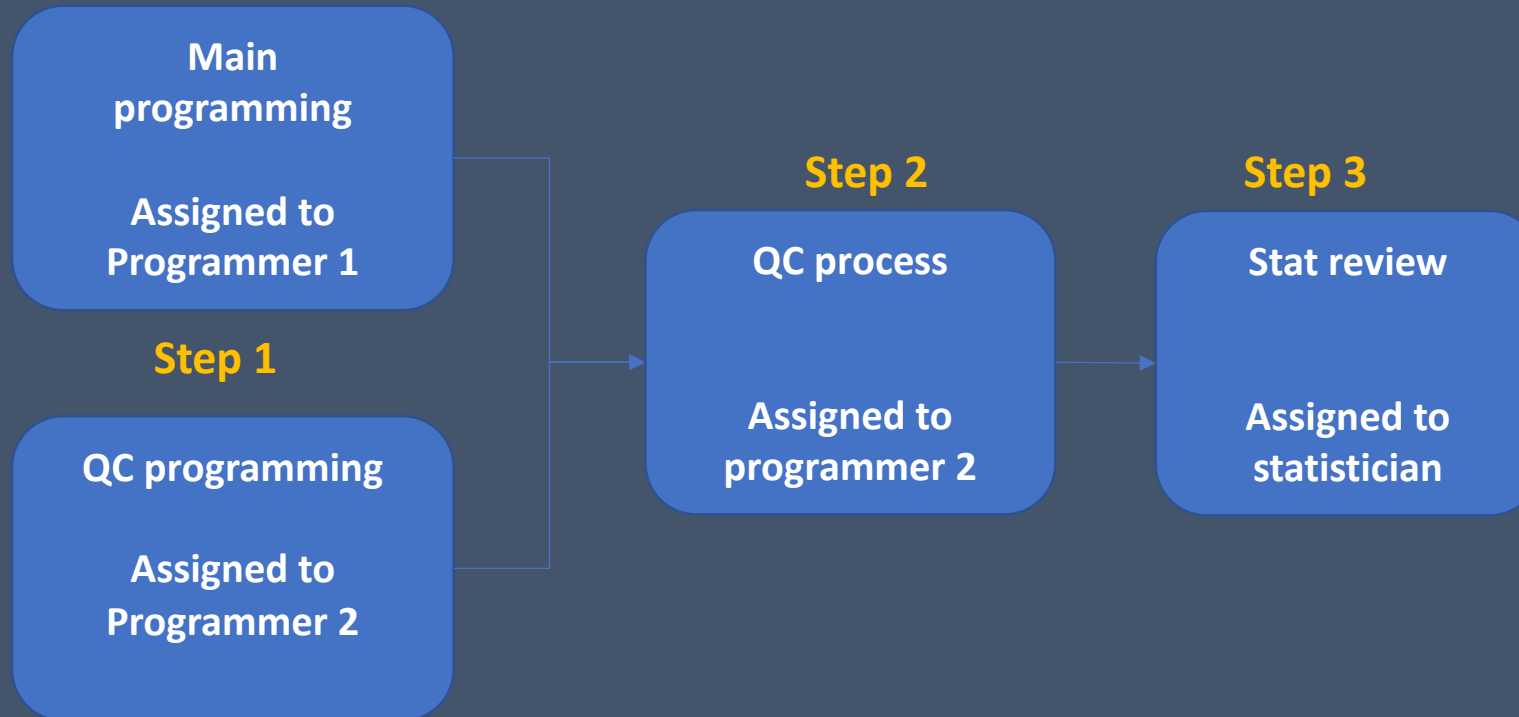
Workflow Version 2.0



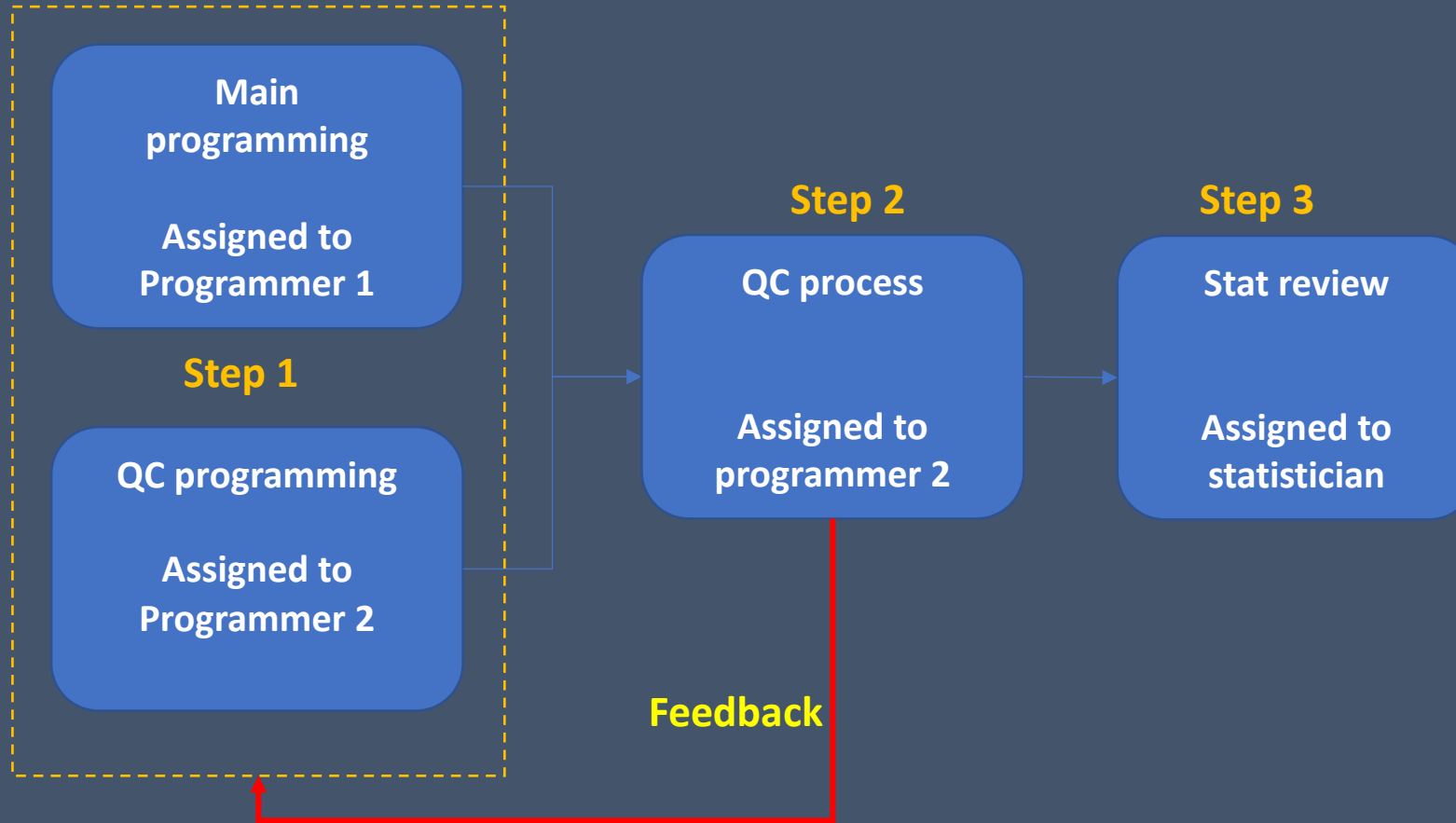
Workflow Version 3.0



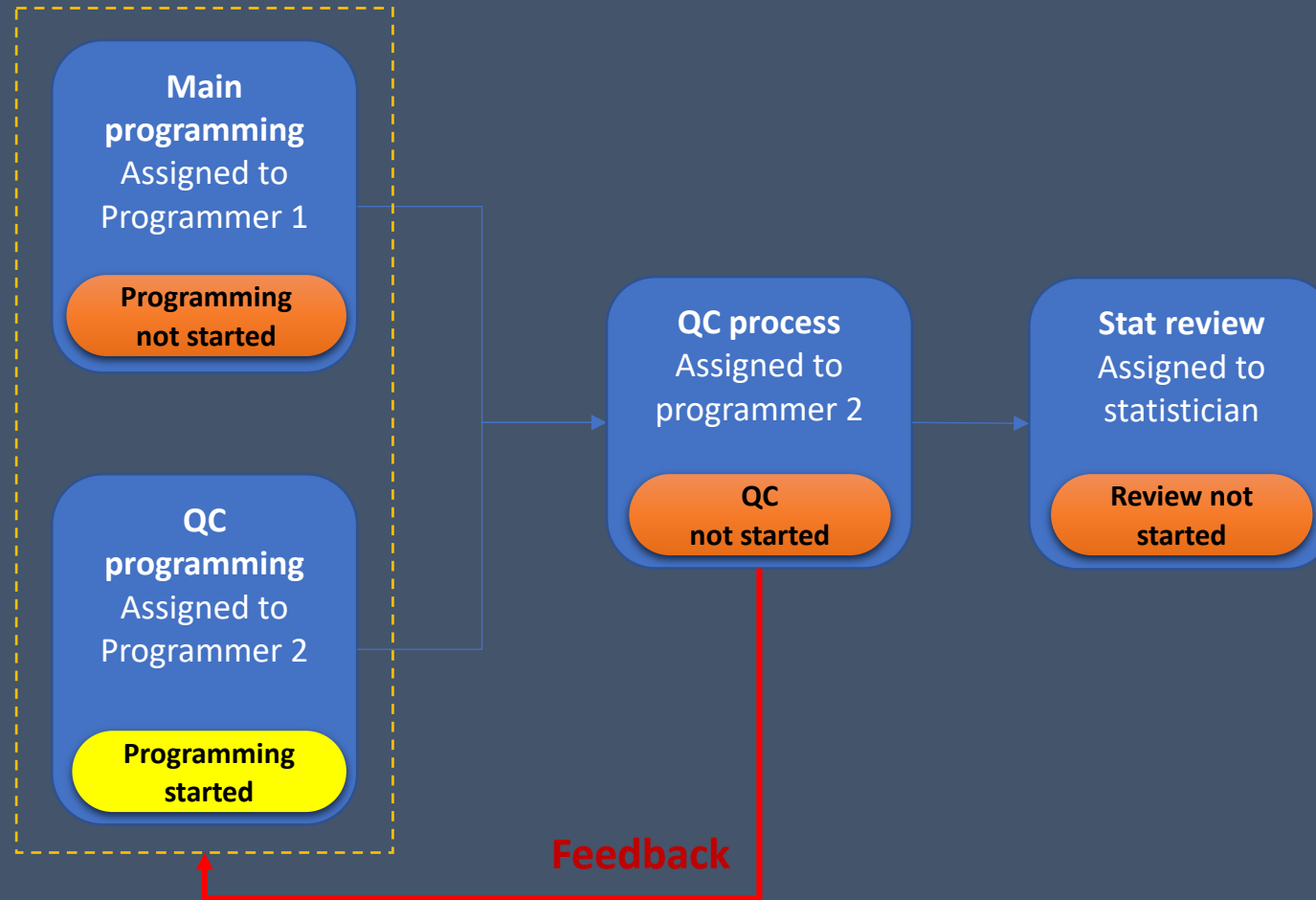
Workflow Version 4.0



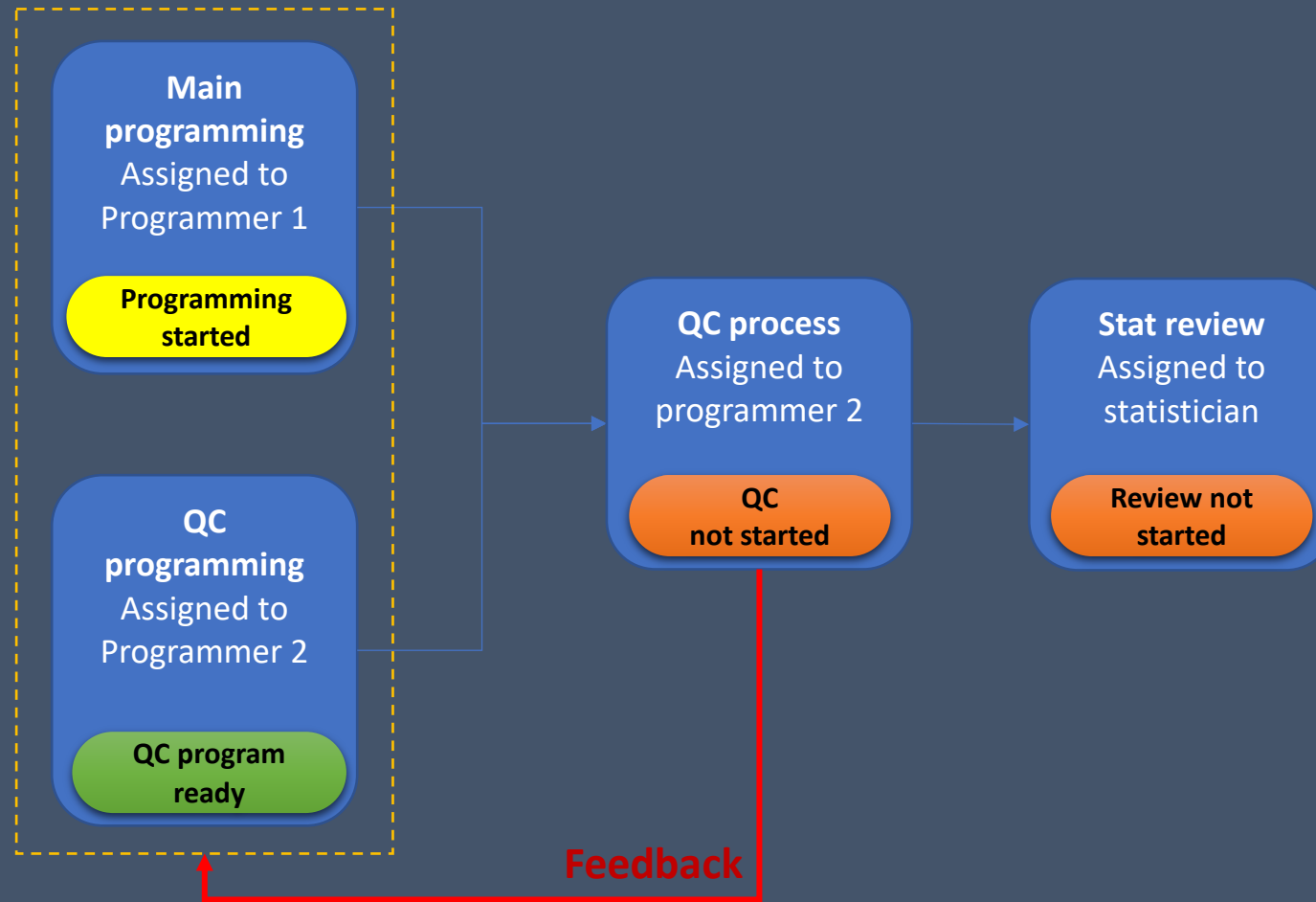
Workflow Version 5.0



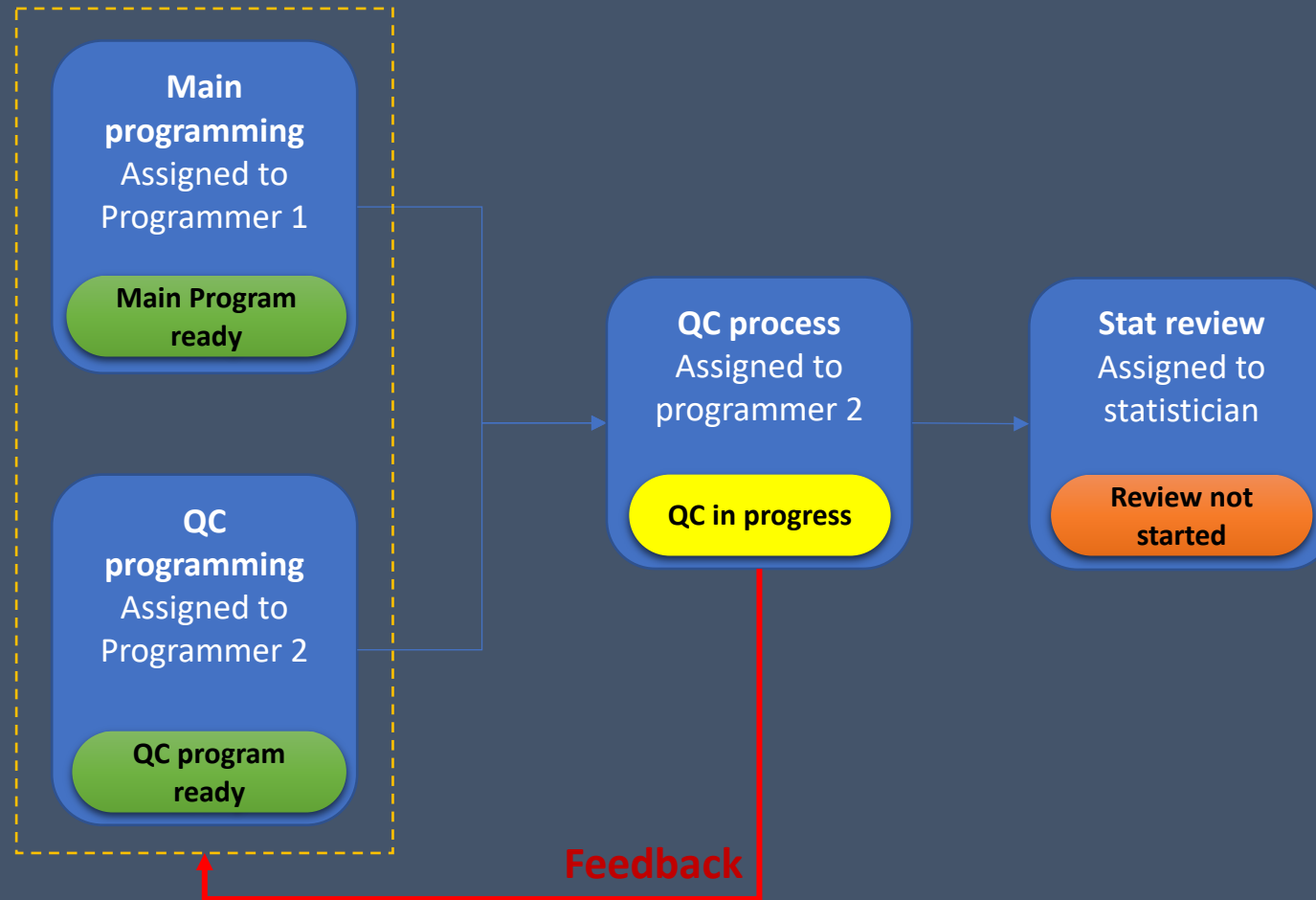
State Diagram Stage 1



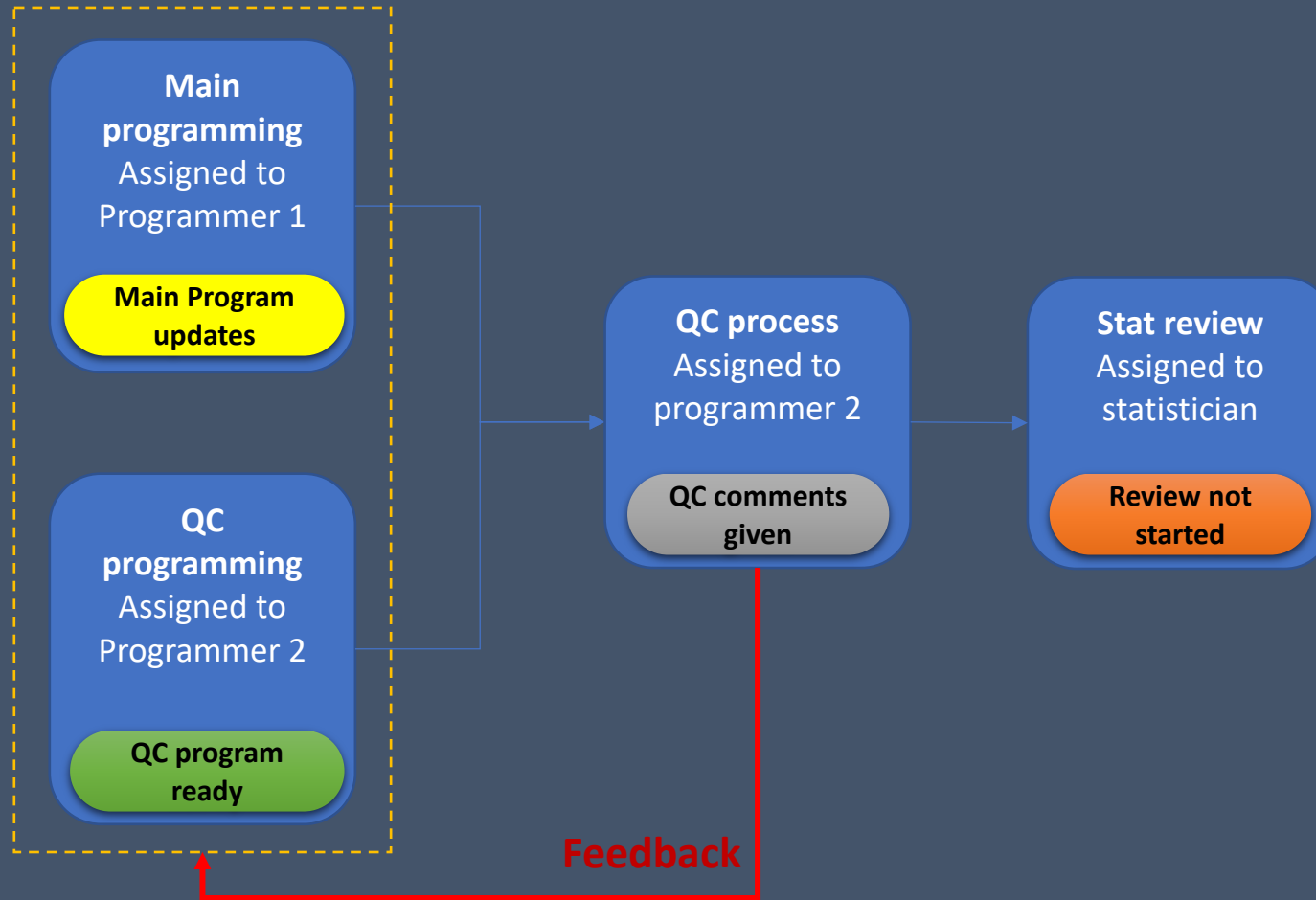
State Diagram Stage 2



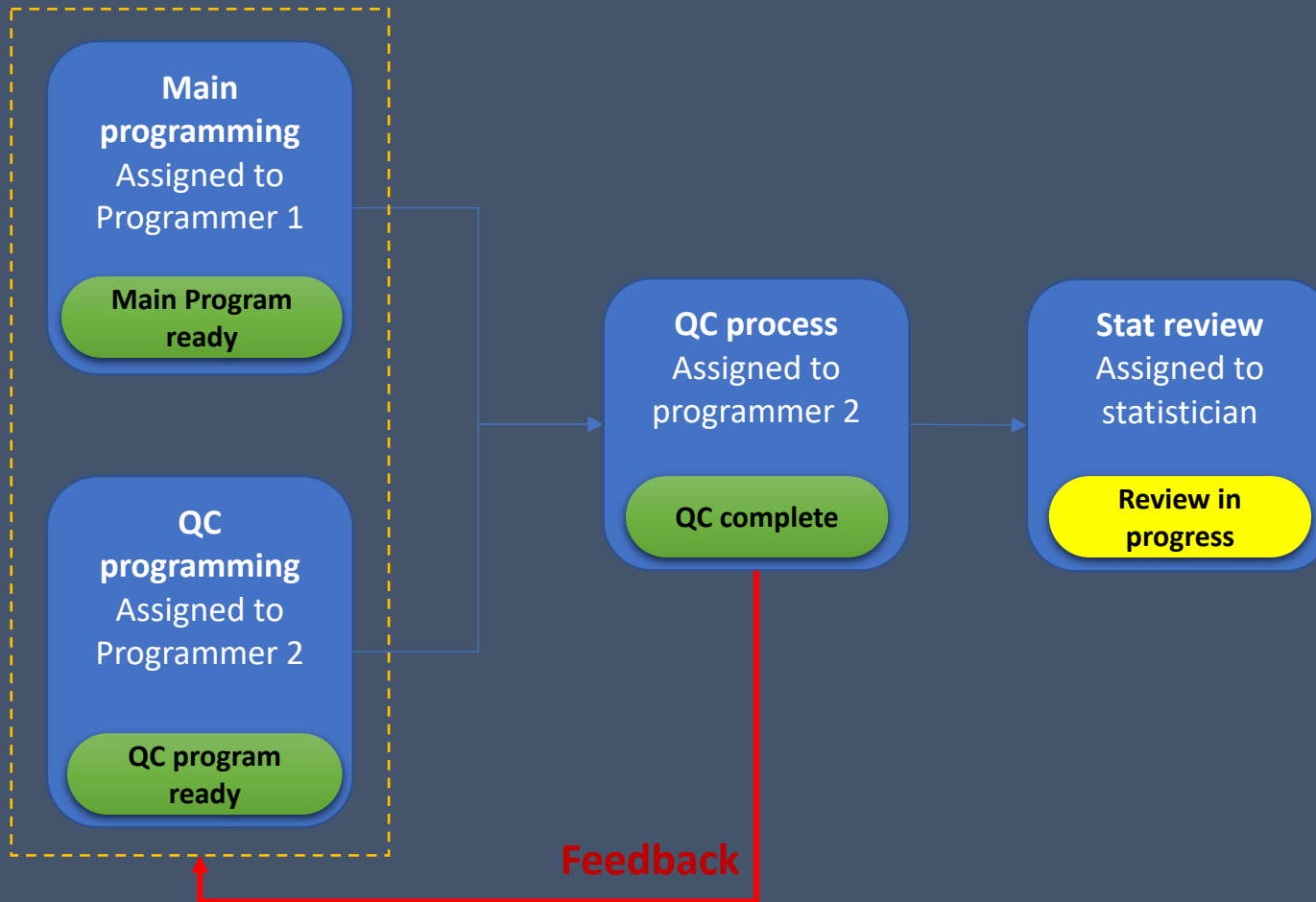
State Diagram Stage 3



State Diagram Stage 4



State Diagram Stage 5



Conclusion

- Workflows in SCEs for traceability and audit trails
- Customization is possible but delicate
- Stopping at the right level of detail is crucial
- Keep it simple

Thank you