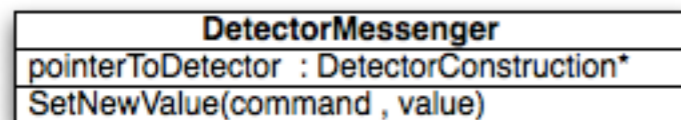


PRODUCING DATA

<http://www.ifh.de/geant4/g4course2010/task4/index.html>

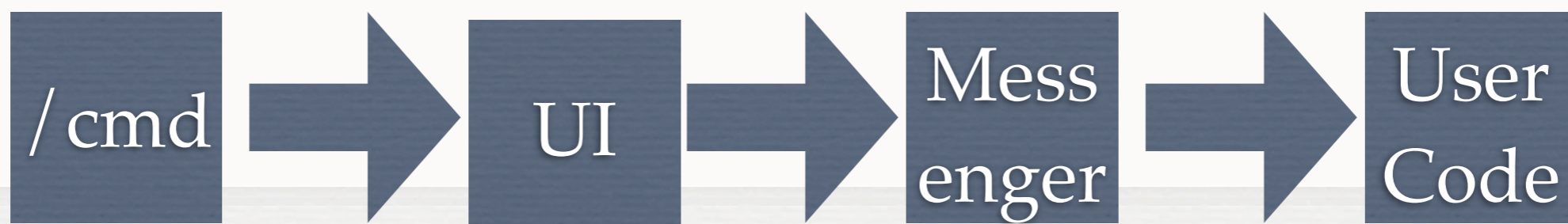
Using UI Custom Commands

- User Interface commands help in controlling the application
- Example from our application:



Interprets */det* commands, if user writes: */det/secondSensor/DUTsetup* messenger calls: `DetectorConstruction::SetDUTSetup(true)`

If variable is true build DUT, else SiTelescope setup.



Available Commands

- */det/secondSensor/theta* : Select rotation angle of second sensor plane around y axis
- */det/secondSensor/DUTsetup* : Select setup. true to have DUT (Device Under Test) setup: second Si plane replaced by DUT
- */det/update* : force to recompute geometry. This command **MUST** be applied before "beamOn" if you changed geometrical value(s) properties (e.g. */det/secondSensor/theta* , */det/secondSensor/DUTsetup*)
- */det/digi/noise* : Define standard deviation of strip gaussian electronic noise (in elementary charge units)
- */det/digi/crosstalk* : Define the cross talk fraction between strips

Exercise

#Turn off cross talk on second plane

/det/digi/crosstalk 0.0

/det/digi cmds do not require */det/update*: geometry does not change, only read-out

#Set particle type and energy

/gps/particle pi+

/gps/energy 2 GeV

/run/beamOn 10000

Will produce tree_run0.root file

#Select a different energy

/gps/energy 200 GeV

/run/beamOn 10000

Will produce tree_run1.root file

#Set DUT as second plane

/det/secondPlane/DUTsetup true

/det/digi/crosstalk 0.05

/det/update

/run/beamOn 10000

Will produce tree_run2.root file

More Resources

📎 SLAC 09 tutorial:

<http://geant4.slac.stanford.edu/SLACTutorial09/UserInterface1.pdf>

<http://geant4.slac.stanford.edu/SLACTutorial09/UserInterface2.pdf>