Collidingblock has been found: block with main is named mainblock, and block with subconnection is named subblock

Lifelines:
- UI
- : ConnectionController
- : ProgramController
- mainConnector : MainConnector
- newMain : Block
- : GUItoSystemInterface
- : PABlockHandler
- ProgramArea
- : ConnectionHandler
- Program

Messages:

1: deleteAsProgram(mainblock)
1.1: block := getBlockFromGUIBlock(mainblock)
1.2: return block
1.3: deleteBlock(GUIBlock)
1.4: deleteProgram(block)
1.4.1: deleteProgram(block)
1.4.2: Update()

2: isValidConnection(mainblock,subblock, connectionID)
1.5: newMain := getBlockFromGUIBlock(mainblock)
1.6: return newMain
1.7: subconnector := getSubConnectorFromGUIBlockWithID(subblock, connectionID)
1.8: return subconnector
1.9: mainConnector := getMainConnector
1.10: return mainConnector
1.11: valid := canHaveAsSubConnector(subconnector)
1.12: return valid

alt [valid == true]

4: connectBlocks(mainblock,subblock,connectionID)
3: mainBlock := getBlockFromGUIBlock(mainblock)
3.1: return mainBlock
5: subconnector := getSubConnectorFromGUIBlockWithID(subblock, connectionID)
5.1: return subconnector
6: connectToExistingBlock(mainBlock, subconnector)
6.1: connect(mainBlock, subconnector)
6.2: Update()

7: highest := getHightest()
8: addBlockToPA(GUIblock)
8.1: block := getBlockFromGUIBlock(GUIBlock)
8.2: return block
8.3: addToPA(block)
8.3.1: addProgram(block)
8.3.2: Update()
{for all programs in Program Area}
8.3.1.1: totalSize := getSize()
8.3.1.2: return totalSize
8.3.3: totalBlocks := getAllBlocksCount()
8.3.4: return totalBlocks
8.4: resetProgram()

For general reset behaviour, see Reset

Actor

: UI

: ProgramController

: BlockLinkDatabase

: PABlockHandler

: Palette

: ProgramArea

Program

1: dragFromPaletteToPA()

1.1: addBlockToPA(GUIblock, index)

1.1.1: getFromPalette(index)

alt

[!reachedmaxblocks]

1.1.1.1: block = getNewBlock(index)

1.1.1.2: return block

1.1.2: return block

1.1.3: addBlockPair(GUIBlock, block)

1.1.4: block := getBlockFromGUIBlock(GUIBlock)

1.1.5: return block

1.1.6: addToPA(block)

1.1.6.1: addProgram(block)

1.1.6.2: Update()

1.1.6.3: totalBlocks := getAllBlocksCount()

{for all programs in Program Area}

1.1.6.3.1: totalSize := getSize()

1.1.6.3.2: return totalSize

1.1.6.4: return totalBlocks

1.1.6.5: reset()

For general reset behaviour, see Reset

alt

[collision detected]

1.2: connectInPA(GUIBlock)

See connection sequence diagram

Actor	UI	: ProgramController	: ConnectionController	: BlockLinkDatabase	: PABlockHandler	: ConnectionHandler	: ProgramArea	: Program

1: dragFromPAToPalette(GUIBlock)

1.1: disconnectInProgramArea(GUIBlock)

1.1.1: disconnectBlock(GUIBlock)

1.1.1.1: block := getBlockFromGUIBlock(GUIBlock)

1.1.1.2: return block

1.1.1.3: disconnectInPA(block)

1.1.1.3.1: disconnect(block)

1.1.1.3.2: addProgram(block)

1.1.1.3.3: Update()

1.1.1.3.4: totalBlocks := getAllBlocksCount()

{for all programs in Program Area}
1.1.1.3.4.1: totalSize := getSize()

1.1.1.3.4.2: return totalSize

1.1.1.3.5: return totalBlocks

1.1.1.3.6: reset()

1.2: deleteFromPA(GUIBlock)

1.2.1: block := getBlockFromGUIBlock(GUIBlock)

1.2.2: return block

1.2.3: deleteBlock(GUIBlock)

1.2.4: deleteProgram(block)

1.2.4.1: deleteProgram(block)

1.2.4.2: Update()

1.2.4.3: totalBlocks := getAllBlocksCount()

{for all programs in Program Area}
1.2.4.3.1: totalSize := getSize()

1.2.4.3.2: return totalSize

1.2.4.4: return totalBlocks

1.1.1.3.7: reset()

For general reset behaviour, see Reset Program

Actor

: UI

: ProgramController

: ProgramObserver

: BlockLinkDatabase

: ProgramArea

program : Program

: Block

: CommandHistory

: Functionality

GameWorld

1: F5

1.1: runProgramStep()

1.1.1: runProgramStep()

alt

1.1.1.1: notifyTooManyPrograms()

[#programs ~ 1]
1.1.1.1.1: onTooManyPrograms()

[else]

1.1.1.2: validity = isValidProgram()

loop

1.1.1.2.1: validity = hasProperConnections()

1.1.1.2.1.1: getNext().hasProperConnections()

1.1.1.2.1.2: return validity

1.1.1.3: return validity

alt

[validity == true]

1.1.1.4: result = executeStep()

1.1.1.4.1: execute(currentBlock, result)

1.1.1.4.1.1: setFunctionality(copy)

1.1.1.4.1.2: result = execute()

1.1.1.4.1.2.1: createSnapshot()

1.1.1.4.1.2.2: return result

1.1.1.4.2: return result

1.1.1.4.3: getNext()

1.1.1.4.4: return result

alt

[Program == Finished]

1.1.1.5: notifyGameFinished(result)

1.1.1.5.1: onGameFinished(result)

[validity == false]

1.1.1.6: notifyProgramInvalid()

1.1.1.6.1: onInvalidProgram()

1.1.1.7: notifyExecuting()

1.1.1.7.1: onExecuting()

1.1.1.7.1.1: highlightedBlock := getHighlightedBlock()

1.1.1.7.1.1.1: getProgram()

1.1.1.7.1.1.1.1: currentBlock:= getCurrentBlock()

1.1.1.7.1.1.1.1.1: return currentBlock

1.1.1.7.1.1.1.1.1: guiBlock := getGUIBlockFromBlock(currentBlock)

1.1.1.7.1.1.1.1.1.2: return guiBlock

1.1.1.7.1.1.1.1.1.3: return highlightedBlock

Actor

UI   : ProgramController   ProgramObserver   : BlockLinkDatabase   : ProgramArea   program : Program   : Block   : CommandHistory   GUIHistory   : Functionality   GameWorld

1: CTRL+SHIFT+Z

alt

[Program being executed]

1.1: redoProgramStep()

1.1.1: redoProgram()

alt

[#programs > 1]

1.1.1.1: notifyTooManyPrograms()

1.1.1.1.1: onTooManyPrograms()

[else]

1.1.1.2: validity = isValidProgram()

1.1.1.2.1: validity = hasProperConnections()

loop

1.1.1.2.1.1: getNext().hasProperConnections()

1.1.1.2.1.2: return validity

1.1.1.3: return validity

alt

[validity == true]

1.1.1.4: result = undoProgram()

1.1.1.4.1: undo(lastResult)

1.1.1.4.1.1: loadCurrentSnapshot()

1.1.1.4.1.1.1: createSnapshot()

1.1.1.4.1.2: return result

1.1.1.5: return result

alt

[Program == Finished]

1.1.1.6: notifyGameFinished(result)

1.1.1.6.1: onGameFinished(result)

[validity == false]

1.1.1.7: notifyProgramInvalid()

1.1.1.7.1: onInvalidProgram()

1.1.1.8: notifyExecuting()

1.1.1.8.1: onExecuting()

[No program being executed]

1.1.1.8.1.1: redo()

GUIHistory keeps track of a redoStack, when redo is called, it simulates the opposite mousemovement found on the stack

1.1.1.8.1.2: highlightedBlock := getHighlightedBlock()

1.1.1.8.1.2.1: getProgram()

1.1.1.8.1.2.1.1: currentBlock:= getCurrentBlock()

1.1.1.8.1.2.1.1.1: return currentBlock

1.1.1.8.1.2.1.1.1.1: guiBlock := getGUIBlockFromBlock(currentBlock)

1.1.1.8.1.2.1.1.1.2: return guiBlock

1.1.1.8.1.2.1.1.1.3: return highlightedBlock

: UI　　: ProgramController　　ProgramObserver　　: BlockLinkDatabase　　: ProgramArea　　program : Program　　: Block　　: CommandHistory　　GUIHistory　　: Functionality　　GameWorld

Actor

1: CTRL+Z

alt

[Program being executed]

1.1: undoProgramStep()

1.1.1: undoProgram()

alt

[#programs > 1]

1.1.1.1: notifyTooManyPrograms()

1.1.1.1.1: onTooManyPrograms()

[else]

1.1.1.2: validity = isValidProgram()

loop

1.1.1.2.1: validity = hasProperConnections()

1.1.1.2.1.1: getNext().hasProperConnections()

1.1.1.2.1.2: return validity

1.1.1.3: return validity

alt

[validity == true]

1.1.1.4: result = undoProgram()

1.1.1.4.1: undo(lastResult)

1.1.1.4.1.1: undo()

1.1.1.4.1.1.1: createSnapshot()

1.1.1.4.1.2: return result

1.1.1.5: return result

alt

[Program == Finished]

1.1.1.6: notifyGameFinished(result)

1.1.1.6.1: onGameFinished(result)

[validity == false]

1.1.1.7: notifyProgramInvalid()

1.1.1.7.1: onInvalidProgram()

1.1.1.8: notifyExecuting()

1.1.1.8.1: onExecuting()

1.1.1.9: notifyReset()

1.1.1.9.1: onProgramReset()

[No program being executed]

1.1.1.9.1.1: undo()

GUIHistory keeps track of an undoStack, when undo is called, it simulates the opposite mousemovement found on the stack

1.1.1.9.1.2: highlightedBlock := getHighlightedBlock()

1.1.1.9.1.2.1: getProgram()

1.1.1.9.1.2.1.1: currentBlock:= getCurrentBlock()

1.1.1.9.1.2.1.1.1: return currentBlock

1.1.1.9.1.2.1.1.1.1: guiBlock := getGUIBlockFromBlock(currentBlock)

1.1.1.9.1.2.1.1.1.1.2: return guiBlock

1.1.1.9.1.2.1.1.1.1.3: return highlightedBlock