



Advanced Software Development II - UML

Course number : #600098

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Class Diagrams (View, ViewModel, Model)



ViewModel

View Model

ViewModel
+m: Model
+view: View
+algorithm: AnomalyDetectionAlgorithm
+ic: IconsController
+aileron: FloatProperty = “new SimpleFloatProperty”
+elevator: FloatProperty = “new SimpleFloatProperty”
+rudder: FloatProperty = “new SimpleFloatProperty”
+throttle: FloatProperty = “new SimpleFloatProperty”
+currentFlightTime: FloatProperty = “new SimpleFloatProperty”
+speedMultySlider: FloatProperty = “new SimpleFloatProperty”
+yaw: FloatProperty = “new SimpleFloatProperty”
+roll: FloatProperty = “new SimpleFloatProperty”
+pitch: FloatProperty = “new SimpleFloatProperty”
+speed: FloatProperty = “new SimpleFloatProperty”
+direction: FloatProperty = “new SimpleFloatProperty”
+altitude: FloatProperty = “new SimpleFloatProperty”
+currentTimeString: FloatProperty = “new SimpleFloatProperty”

Functions
+ViewModel(Model): ViewModel
+ViewModel(): ViewModel
+Start()
+StartFlight()
+Update(Observable , Object)
+OpenCSV()
+getSpeedText(): Textfiled
+getSpeedSlider(): Slider
+Bind()
+Play()
+Pause()
+Stop()
+SpeedUp()
+SpeedDown()
+DoubleSpeedUP()
+DoubleSpeedDown()
+Change()

View Model

<u>Class - ViewModel</u> (Functions)
+ChangeTime()
+getFlightLength(): int
+getCurrentTime(): int
+getParameter(String): float
+getFlightData(): String[]
+getDataList(): List<String>
+getFlightDataIndex(int): int
+getParameterIndex(string): int
+setCurrentFlightTime(int)

<u>Class - Service</u> (Functions only)
+msToTimeString(long): String
+getNodeById(String): Node
+setDisableALL(boolean)
+loadAlgorithm(String)



Model

Model

ConfigurationFile
+simulator_path: String
+simulator_playback: String
+flight_data_csv: String
+playback_speed_multiplayer: float
+playback_sample_rate_ms: int
+playback_input_port: int
+playback_output_port: int
+init_sleep_seconds: int
Functions:
+readConfigFromXML (String): ConfigurationFile
+saveConfigToXML(ConfigurationFile,String)

FlightProcess
+flightGear: Process
Functions:
+FlightProcess (String, int, int): FlightProcess
+getOutputStream(): OutputStream
+getInputStream(): InputStream
+getErrorStream(): InputStream
+setCurrentFlightTime(int)
+getCurrentFlightTime (): int
+destroy()

Model

simulationHandler
-simOut: Socket
-flightData: String[]
-flightLength: int
-currentTimeInMs: int
-TimeJumpMs: int
-timeCorrection: float
Functions:
+simulationHandler (Socket,String[],int,float): simulationHandler
+getFlightDataIndexByMsTime (long): int
+sendFlightDataToSimulator ()
+setFlightSpeed (float)
+getFlightLength(): int
+setCurrentFlightTime (int)
+getCurrentFlightTime (): int
+getFlightData (): String[]
+close ()

Socket
-socket: java.net.Socket
-input: DataInputStream
-output: DataOutputStream
Functions:
+Socket (java.net.Socket): Socket
+Socket (String, int): Socket
+writeLine (String)
+readline ()
+close()

Model

<<SimulatorAPI>>
+Start()
+finalize()
+loadfromCSV (String)
+getParameter (String)
+setSimulatorSpeed(float)
+sendDataToSimulator()
+setCurrentTime(int)
+getFlightLength()
+getCurrentTime()
+getData()
+getDataList()
+getFlightDataIndexByMs(int)
+getFlightParameterIndex(string)
+startToFly()

<<ModelInterface>>
+openCSVFile()
+play()
+pause()
+stop()
+speedUp()
+speedDown()
+doubleSpeedUp()
+doubleSpeedDown()

Model

Class FlightGearAPI
+config: ConfigurationFile
+_name,_value: ParametersOfFlight
+ip: String
+defaultDelay: int
-socketIn: Socket
-simulator: Process
-dataInThread: Thread
-dataHandler: SiumulationHandler
-dataOutThread: Thread
-flightTimer: Tiner = “new Timer”
Functions:
+getDataList (): List<String>
+startToFly()
-updateFlightDataFromSocket()
-updateDataLive()
-FromXMLToFlightData()
-copyPlaybackToSimulator()

Class FlightGearAPI
Functions:
+FlightGearAPI()
+start()
+finalize()
+loadFromCSV(String): simulationHandler
+getParameter(String): String
+getFlightParameterIndex(String): String
+setSimulationSpeed(float)
+sendDataToSimulator()
+setCurrentTime(int)
+getFlightlength(): int
+getCurrentTime(): int
+getData(): String[]
+getFlightDataIndexByMs(): int

Model

<u>Class</u> - Model
+simulatorAPI: SimulatorAPI
+config: ConfigurationFile
+vm: ViewModel
+CsvPath: StringProperty
Functions:
+Model (): Model
+openCSVFile ()
+play()
+pause()
+stop()
+speedUp()
+speedDown()
+doubleSpeedUp()
+changeSpeedText()
+changeFlightSpeed(float)
+changeInSpeedSlider()
+readConfig()



View

View

Class View
+ic: IconsController
+gc: GraphController
+jc: JoyStick
+lvc: ListViewController
Functions:
+View (): View
+setAll()
+bind()

Class MainController
+Joystick: MyJoyStick
+ListView: MyListView
+Graphs: MyGraph
+Icons: MyIcons
Functions:
+initialize (URL,ResourceBundle)

Class Main
+ViewModel: viewModel
+Scene: scene
+boolean: SliderTimeTouch
+boolean: SliderSpeedTouch
+boolean: ChooseParameter
+View: view
Functions:
+Start(Stage)
+stop()
+bind()

View (ListView)

Class ListView
+list: javafx.scene.control.ListView
+xml: Button
+xmlPath: StringProperty
Functions:
+ListView()

Class ListView
+vm: ViewModel
+listView: ListView
+openButton: Button
+ListView: ListView<String>
+parametersList: ListView<String>
+xmlPath: StringProperty
+ic: IconsController
+jc: JoystickController
+flightLength: int
Functions:
+ListViewController(): ListViewController
+SetListView()
+onClickOpen()
+onMouseListClickView()
+onMouseClickedParametersList()

View (JoyStick)

Class JoyStick
+aileron: DoubleProperty
+elevators: DoubleProperty
+rudder: DoubleProperty
+throttle: DoubleProperty
+myJoyStickController: JoyStickController
Functions:
+JoyStick(): JoyStick

Class JoyStickController
+vm: ViewModel
+movingCircle: Circle
+rudderSlider: Slider
+throttleSlider: Slider
+yawValue: Label
+AltitudeValue: Label
+DirectionValue: Label
+SpeedValue: Label
+PitchValue: Label
+RollValue: Label
+CanvasCircle: Circle
Functions:
+JoyStickController(): JoyStickController
+getRudder(): Slider
+setJoyStick()
+bindJoyStick()
+setDashboardPanel()

View (Icons)

Class Icons
+doubleSpeedDownButton: Button
+speedDownButton: Button
+playButton: Button
+pauseButton: Button
+stopButton: Button
+speedUpButton: Button
+doubleSpeedUpBotton: Button
+speedText: TextField
+flightSlider: Slider
+currentTimeLabel: Label
+speedSlider: Slider
Functions:
+Icons(): Icons

Class IconsController
+play: Runnable
+pause: Runnable
+stop: Runnable
+speedUp: Runnable
+speedDown: Runnable
+doubleSpeedUp: Runnable
+doubleSpeedDown: Runnable
+doubleSpeedDownButton: Button
+speedDownButton: Button
+playButton: Button
+pauseButton: Button
+stopButton: Button
+speedUpButton: Button
+doubleSpeedUpBotton: Button
+flightSlider: Slider
+speedSlider: Slider
+speedText: TextField
+LabelCurrentTime: Label
+TotalFlightTime: Label

View (Icons)

Class IconsController
Functions:
+setIcons()
+bindIcons()
+getCurrentTimeLabel(): Label
+onClickPlay()
+onClickPause()
+onClickStop()
+onClickSpeedDown()
+onClickDoubleSpeedDown()
+onClickSpeedUp()
+onClickDoubleSpeedUp()
+onChangeSpeedText()
+onMousePressedSlider()
+onMouseMovedTimeSlider()
+onMouseReleasedSlider()
+onMousePressedSpeedSlider()
+onMouseMoveSpeedSlider()
+onMouseReleasedSlider()

View (Graphs)

Class ListView
Functions:
+Graphs(): Graphs

Class GraphsController
+chosenParameter: NumberAxis
+correlatedParameter: NumberAxis
+Graph1: LineChart
+Graph2: LineChart
+Canvas: Canvas
Functions:
+GraphsController(): GraphsController
+setGraph()