ODE Framework

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Chapter 5

Namespace Documentation

5.1 Package age

Packages

- package clock
- package event
- package gui
- package log
- package port
- package task

Classes

- class AGEException
- class Client
- class Util

5.2 Package age.clock

Classes

- class Alarm
- class Clock
- interface Task

5.3 Package age.event

Classes

- enum Button
- class Event
- class Events
- interface Handler
- enum Key
- enum Type

5.4 Package age.gui

Classes

- class Dock
- enum Flag
- class Handling
- class MultilineWidget
- class Rendering
- class Widget
- class Widgets
- class Window

5.5 Package age.log

Classes

- enum Level
- class Log

5.6 Package age.port

Packages

- package jogl

Classes

- interface Graphics
- interface Port
- interface Renderable

5.7 Package age.port.jogl

Classes

- class JOGLEventListener
- class JOGLGraphics
- class JOGLPort
- class JOGLRenderListener

5.8 Package age.task

Classes

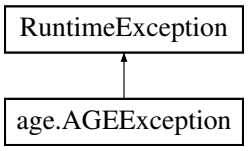
- interface Task
- class Tasks

Chapter 6

Class Documentation

6.1 age.AGEException Class Reference

Inheritance diagram for age.AGEException:



Public Member Functions

- AGEException ()
- AGEException (Throwable cause)
- AGEException (String message)
- AGEException (String message, Throwable cause)

Static Private Attributes

- static final long serialVersionUID = 1L

6.1.1 Constructor & Destructor Documentation

6.1.1.1 AGEException() [1/4]

```
age.AGEException.AGEException ( )
```

6.1.1.2 AGEException() [2/4]

```
age.AGEException.AGEException (
            Throwable cause )
```

6.1.1.3 AGEException() [3/4]

```
age.AGEException.AGEException (
            String message )
```

6.1.1.4 AGEException() [4/4]

```
age.AGEException.AGEException (
            String message,
            Throwable cause )
```

6.1.2 Member Data Documentation

6.1.2.1 serialVersionUID

```
final long age.AGEException.serialVersionUID = 1L  [static], [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/AGEException.java

6.2 age.clock.Alarm Class Reference

Public Member Functions

- void init (long nanotime)
- void update (long nanotime)

Package Functions

- Alarm (long nanoperiod, Task task)

Private Member Functions

- void trigger (int count, float dT)

Private Attributes

- long nanoperiod
- Task task
- long mark

6.2.1 Constructor & Destructor Documentation

6.2.1.1 Alarm()

```
age.clock.Alarm.Alarm (
            long nanoperiod,
            Task task )  [package]
```

6.2.2 Member Function Documentation

6.2.2.1 init()

```
void age.clock.Alarm.init (
            long nanotime )
```

6.2.2.2 trigger()

```
void age.clock.Alarm.trigger (
            int count,
            float dT )  [private]
```

6.2.2.3 update()

```
void age.clock.Alarm.update (
            long nanotime )
```

6.2.3 Member Data Documentation

6.2.3.1 mark

```
long age.clock.Alarm.mark  [private]
```

6.2.3.2 nanoperiod

```
long age.clock.Alarm.nanoperiod  [private]
```

6.2.3.3 task

```
Task age.clock.Alarm.task  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/clock/Alarm.java

6.3 age.event.Button Enum Reference

Public Attributes

- NONE
- BTN1
- BTN2
- BTN3
- BTN4
- BTN5
- BTN6
- BTN7
- BTN8

6.3.1 Member Data Documentation

6.3.1.1 BTN1

```
age.event.Button.BTN1
```

6.3.1.2 BTN2

```
age.event.Button.BTN2
```

6.3.1.3 BTN3

```
age.event.Button.BTN3
```

6.3.1.4 BTN4

```
age.event.Button.BTN4
```

6.3.1.5 BTN5

```
age.event.Button.BTN5
```

6.3.1.6 BTN6

```
age.event.Button.BTN6
```

6.3.1.7 BTN7

```
age.event.Button.BTN7
```

6.3.1.8 BTN8

```
age.event.Button.BTN8
```

6.3.1.9 NONE

```
age.event.Button.NONE
```

The documentation for this enum was generated from the following file:

- D:/GIT/repos/ODE/age/age/event/Button.java

6.4 age.Client Class Reference

Public Member Functions

- void run ()
- void shutdown ()

Static Public Member Functions

- static void main (String[ ] args)

Private Member Functions

- void setup ()
- void setupGUI ()
- void toggleSysmenu ()
- void loop ()
- void render (int count, long nanoperiod, float dT)
- void update (int count, long nanoperiod, float dT)

Private Attributes

- Clock clock = new Clock()
- Events events = new Events()
- Widgets widgets = new Widgets()
- Tasks tasks = new Tasks()
- Port port = new JOGLPort()
- boolean running = false
- Widget sysMenuFrame

6.4.1 Member Function Documentation

6.4.1.1 loop()

```
void age.Client.loop ( )  [private]
```

6.4.1.2 main()

```
static void age.Client.main (
            String[] args )  [static]
```

6.4.1.3 render()

```
void age.Client.render (
            int count,
            long nanoperiod,
            float dT )  [private]
```

6.4.1.4 run()

```
void age.Client.run ( )
```

6.4.1.5 setup()

```
void age.Client.setup ( )  [private]
```

6.4.1.6 setupGUI()

```
void age.Client.setupGUI ( )  [private]
```

6.4.1.7 shutdown()

```
void age.Client.shutdown ( )
```

6.4.1.8 toggleSysmenu()

```
void age.Client.toggleSysmenu ( )  [private]
```

6.4.1.9 update()

```
void age.Client.update (
            int count,
            long nanoperiod,
            float dT )  [private]
```

6.4.2 Member Data Documentation

6.4.2.1 clock

```
Clock age.Client.clock = new Clock()  [private]
```

6.4.2.2 events

```
Events age.Client.events = new Events()  [private]
```

6.4.2.3 port

```
Port age.Client.port = new JOGLPort()  [private]
```

6.4.2.4 running

```
boolean age.Client.running = false  [private]
```

6.4.2.5 sysMenuFrame

```
Widget age.Client.sysMenuFrame  [private]
```

6.4.2.6 tasks

```
Tasks age.Client.tasks = new Tasks()  [private]
```

6.4.2.7 widgets

```
Widgets age.Client.widgets = new Widgets()  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/Client.java

6.5 age.clock.Clock Class Reference

Public Member Functions

- void add (long nanoperiod, Task task)
- void addFPS (int fps, Task task)
- void init ()
- void update ()

Private Attributes

- final List< Alarm > alarms = new ArrayList<>()

6.5.1 Member Function Documentation

6.5.1.1 add()

```
void age.clock.Clock.add (
            long nanoperiod,
            Task task )
```

6.5.1.2 addFPS()

```
void age.clock.Clock.addFPS (
            int fps,
            Task task )
```

6.5.1.3 init()

```
void age.clock.Clock.init ( )
```

6.5.1.4 update()

```
void age.clock.Clock.update ( )
```

6.5.2 Member Data Documentation

6.5.2.1 alarms

```
final List<Alarm> age.clock.Clock.alarms = new ArrayList<>()  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/clock/Clock.java

6.6 age.gui.Dock Class Reference

Public Member Functions

- float top ()
- float bottom ()
- float left ()
- float right ()
- void set (Dock dock)
- void set (float left, float right, float top, float bottom)

Private Attributes

- float left = 0
- float right = 0
- float top = 0
- float bottom = 0

6.6.1 Member Function Documentation

6.6.1.1 bottom()

```
float age.gui.Dock.bottom ( )
```

6.6.1.2 left()

```
float age.gui.Dock.left ( )
```

6.6.1.3 right()

```
float age.gui.Dock.right ( )
```

6.6.1.4 set() [1/2]

```
void age.gui.Dock.set (
            Dock dock )
```

6.6.1.5 set() [2/2]

```
void age.gui.Dock.set (
            float left,
            float right,
            float top,
            float bottom )
```

6.6.1.6 top()

```
float age.gui.Dock.top ( )
```

6.6.2 Member Data Documentation

6.6.2.1 bottom

```
float age.gui.Dock.bottom = 0  [private]
```

6.6.2.2 left

```
float age.gui.Dock.left = 0  [private]
```

6.6.2.3 right

```
float age.gui.Dock.right = 0  [private]
```

6.6.2.4 top

```
float age.gui.Dock.top = 0  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/gui/Dock.java

6.7 age.event.Event Class Reference

Public Member Functions

- void clear ()
- Type type ()
- Key key ()
- char character ()
- Button button ()
- int count ()
- float x ()
- float y ()
- Vector2f position ()
- float width ()
- float height ()
- Vector2f dimension ()
- String command ()
- void keyPressed (Key key, char character)
- void keyReleased (Key key, char character)
- void keyTyped (Key key, char character)
- void pointerEntered (float x, float y)
- void pointerExited (float x, float y)
- void pointerMoved (float x, float y)
- void pointerPressed (Button button, int count, float x, float y)
- void pointerClicked (Button button, int count, float x, float y)
- void pointerReleased (Button button, int count, float x, float y)
- void surfaceResized (float w, float h)
- void surfaceCloseRequest ()
- void taskCommand (String command)

Package Functions

- Event ()

Private Member Functions

- void keyEvent (Type type, Key key, char character)
- void pointerEvent (Type type, Button button, int count, float x, float y)

Private Attributes

- Type type = Type.NONE
- Key key = Key.NONE
- char character = '\0'
- Button button = Button.NONE
- int count = -1
- Vector2f position = new Vector2f()
- Vector2f dimension = new Vector2f()
- String command = null

6.7.1 Constructor & Destructor Documentation

6.7.1.1 Event()

```
age.event.Event.Event ( )  [package]
```

6.7.2 Member Function Documentation

6.7.2.1 button()

```
Button age.event.Event.button ( )
```

6.7.2.2 character()

```
char age.event.Event.character ( )
```

6.7.2.3 clear()

```
void age.event.Event.clear ( )
```

6.7.2.4 command()

```
String age.event.Event.command ( )
```

6.7.2.5 count()

```
int age.event.Event.count ( )
```

6.7.2.6 dimension()

```
Vector2f age.event.Event.dimension ( )
```

6.7.2.7 height()

```
float age.event.Event.height ( )
```

6.7.2.8 key()

```
Key age.event.Event.key ( )
```

6.7.2.9 keyEvent()

```
void age.event.Event.keyEvent (
            Type type,
            Key key,
            char character )  [private]
```

6.7.2.10 keyPressed()

```
void age.event.Event.keyPressed (
            Key key,
            char character )
```

6.7.2.11 keyReleased()

```
void age.event.Event.keyReleased (
            Key key,
            char character )
```

6.7.2.12 keyTyped()

```
void age.event.Event.keyTyped (
            Key key,
            char character )
```

6.7.2.13 pointerClicked()

```
void age.event.Event.pointerClicked (
            Button button,
            int count,
            float x,
            float y )
```

6.7.2.14 pointerEntered()

```
void age.event.Event.pointerEntered (
            float x,
            float y )
```

6.7.2.15 pointerEvent()

```
void age.event.Event.pointerEvent (
            Type type,
            Button button,
            int count,
            float x,
            float y )  [private]
```

6.7.2.16 pointerExited()

```
void age.event.Event.pointerExited (
            float x,
            float y )
```

6.7.2.17 pointerMoved()

```
void age.event.Event.pointerMoved (
            float x,
            float y )
```

6.7.2.18 pointerPressed()

```
void age.event.Event.pointerPressed (
            Button button,
            int count,
            float x,
            float y )
```

6.7.2.19 pointerReleased()

```
void age.event.Event.pointerReleased (
            Button button,
            int count,
            float x,
            float y )
```

6.7.2.20 position()

```
Vector2f age.event.Event.position ( )
```

6.7.2.21 surfaceCloseRequest()

```
void age.event.Event.surfaceCloseRequest ( )
```

6.7.2.22 surfaceResized()

```
void age.event.Event.surfaceResized (
            float w,
            float h )
```

6.7.2.23 taskCommand()

```
void age.event.Event.taskCommand (
            String command )
```

6.7.2.24 type()

```
Type age.event.Event.type ( )
```

6.7.2.25 width()

```
float age.event.Event.width ( )
```

6.7.2.26 x()

```
float age.event.Event.x ( )
```

6.7.2.27 y()

```
float age.event.Event.y ( )
```

6.7.3 Member Data Documentation

6.7.3.1 button

```
Button age.event.Event.button = Button.NONE  [private]
```

6.7.3.2 character

```
char age.event.Event.character = '\0'  [private]
```

6.7.3.3 command

```
String age.event.Event.command = null  [private]
```

6.7.3.4 count

```
int age.event.Event.count = -1  [private]
```

6.7.3.5 dimension

```
Vector2f age.event.Event.dimension = new Vector2f()  [private]
```

6.7.3.6 key

```
Key age.event.Event.key = Key.NONE  [private]
```

6.7.3.7 position

```
Vector2f age.event.Event.position = new Vector2f()  [private]
```

6.7.3.8 type

```
Type age.event.Event.type = Type.NONE  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/event/Event.java

6.8 age.event.Events Class Reference

Public Member Functions

- void assign (Type type, Handler handler)
- void postKeyPressed (Key key, char character)
- void postKeyReleased (Key key, char character)
- void postKeyTyped (Key key, char character)
- void postPointerEntered (float x, float y)
- void postPointerExited (float x, float y)
- void postPointerMoved (float x, float y)
- void postPointerPressed (Button button, int count, float x, float y)
- void postPointerReleased (Button button, int count, float x, float y)
- void postPointerClicked (Button button, int count, float x, float y)
- void postSurfaceResized (float w, float h)
- void postSurfaceCloseRequest ()
- void postTaskCommand (String command)
- void update ()

Private Member Functions

- void handle (Event event)
- void post (Event event)
- Event alloc ()
- void free (Event event)

Private Attributes

- final Queue< Event > cache = new LinkedList<>()
- final List< Event > inbox = new ArrayList<>()
- final List< Event > outbox = new ArrayList<>()
- final Map< Type, List< Handler > > handlers = new EnumMap<>(Type.class)

6.8.1 Member Function Documentation

6.8.1.1 alloc()

```
Event age.event.Events.alloc ( )  [private]
```

6.8.1.2 assign()

```
void age.event.Events.assign (
            Type type,
            Handler handler )
```

6.8.1.3 free()

```
void age.event.Events.free (
            Event event )  [private]
```

6.8.1.4 handle()

```
void age.event.Events.handle (
            Event event )  [private]
```

6.8.1.5 post()

```
void age.event.Events.post (
            Event event )  [private]
```

6.8.1.6 postKeyPressed()

```
void age.event.Events.postKeyPressed (
            Key key,
            char character )
```

6.8.1.7 postKeyReleased()

```
void age.event.Events.postKeyReleased (
            Key key,
            char character )
```

6.8.1.8 postKeyTyped()

```
void age.event.Events.postKeyTyped (
            Key key,
            char character )
```

6.8.1.9 postPointerClicked()

```
void age.event.Events.postPointerClicked (
            Button button,
            int count,
            float x,
            float y )
```

6.8.1.10 postPointerEntered()

```
void age.event.Events.postPointerEntered (
            float x,
            float y )
```

6.8.1.11 postPointerExited()

```
void age.event.Events.postPointerExited (
            float x,
            float y )
```

6.8.1.12 postPointerMoved()

```
void age.event.Events.postPointerMoved (
            float x,
            float y )
```

6.8.1.13 postPointerPressed()

```
void age.event.Events.postPointerPressed (
            Button button,
            int count,
            float x,
            float y )
```

6.8.1.14 postPointerReleased()

```
void age.event.Events.postPointerReleased (
            Button button,
            int count,
            float x,
            float y )
```

6.8.1.15 postSurfaceCloseRequest()

```
void age.event.Events.postSurfaceCloseRequest ( )
```

6.8.1.16 postSurfaceResized()

```
void age.event.Events.postSurfaceResized (
            float w,
            float h )
```

6.8.1.17 postTaskCommand()

```
void age.event.Events.postTaskCommand (
            String command )
```

6.8.1.18 update()

```
void age.event.Events.update ( )
```

6.8.2 Member Data Documentation

6.8.2.1 cache

```
final Queue<Event> age.event.Events.cache = new LinkedList<>()  [private]
```

6.8.2.2 handlers

```
final Map<Type, List<Handler> > age.event.Events.handlers = new EnumMap<>(Type.class)  [private]
```

6.8.2.3 inbox

```
final List<Event> age.event.Events.inbox = new ArrayList<>()  [private]
```

6.8.2.4 outbox

```
final List<Event> age.event.Events.outbox = new ArrayList<>()  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/event/Events.java

6.9 age.gui.Flag Enum Reference

Public Attributes

- BOX
- FRAME
- BUTTON
- CANVAS
- TITLE
- MULTILINE
- HOVERED
- HIDDEN

6.9.1 Member Data Documentation

6.9.1.1 BOX

```
age.gui.Flag.BOX
```

6.9.1.2 BUTTON

```
age.gui.Flag.BUTTON
```

6.9.1.3 CANVAS

```
age.gui.Flag.CANVAS
```

6.9.1.4 FRAME

```
age.gui.Flag.FRAME
```

6.9.1.5 HIDDEN

```
age.gui.Flag.HIDDEN
```

6.9.1.6 HOVERED

`age.gui.Flag.HOVERED`

6.9.1.7 MULTILINE

`age.gui.Flag.MULTILINE`

6.9.1.8 TITLE

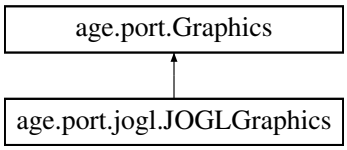
`age.gui.Flag.TITLE`

The documentation for this enum was generated from the following file:

- D:/GIT/repos/ODE/age/age/gui/Flag.java

6.10 age.port.Graphics Interface Reference

Inheritance diagram for age.port.Graphics:



Public Member Functions

- void mode2D ()
- void pushTransformation ()
- void popTransformation ()
- void color (Color4f c)
- void color (float r, float g, float b)
- void color (float r, float g, float b, float a)
- void translate (Vector2f pos)
- void translate (float x, float y)
- void rectangle (Vector2f dim, boolean hollow)
- void rectangle (Vector2f pos, Vector2f dim, boolean hollow)
- void rectangle (float x, float y, float w, float h, boolean hollow)
- void text (float x, float y, CharSequence text, String font)
- void texture (float x, float y, float w, float h, String texture)
- void calcMultitext (String text, Vector2f dimension, String font, int[ ] buffer)
- void calcMultitext (String text, float width, float height, String font, int[ ] buffer)

6.10.1 Member Function Documentation

6.10.1.1 calcMultitext() [1/2]

```
void age.port.Graphics.calcMultitext (
            String text,
            float width,
            float height,
            String font,
            int[] buffer )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.2 calcMultitext() [2/2]

```
void age.port.Graphics.calcMultitext (
            String text,
            Vector2f dimension,
            String font,
            int[] buffer )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.3 color() [1/3]

```
void age.port.Graphics.color (
            Color4f c )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.4 color() [2/3]

```
void age.port.Graphics.color (
            float r,
            float g,
            float b )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.5 color() [3/3]

```
void age.port.Graphics.color (
            float r,
            float g,
            float b,
            float a )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.6 mode2D()

```
void age.port.Graphics.mode2D ( )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.7 popTransformation()

```
void age.port.Graphics.popTransformation ( )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.8 pushTransformation()

```
void age.port.Graphics.pushTransformation ( )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.9 rectangle() [1/3]

```
void age.port.Graphics.rectangle (
            float x,
            float y,
            float w,
            float h,
            boolean hollow )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.10 rectangle() [2/3]

```
void age.port.Graphics.rectangle (
            Vector2f dim,
            boolean hollow )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.11 rectangle() [3/3]

```
void age.port.Graphics.rectangle (
            Vector2f pos,
            Vector2f dim,
            boolean hollow )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.12 text()

```
void age.port.Graphics.text (
            float x,
            float y,
            CharSequence text,
            String font )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.13 texture()

```
void age.port.Graphics.texture (
            float x,
            float y,
            float w,
            float h,
            String texture )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.14 translate() [1/2]

```
void age.port.Graphics.translate (
            float x,
            float y )
```

Implemented in age.port.jogl.JOGLGraphics.

6.10.1.15 translate() [2/2]

```
void age.port.Graphics.translate (
            Vector2f pos )
```

Implemented in age.port.jogl.JOGLGraphics.

The documentation for this interface was generated from the following file:

- D:/GIT/repos/ODE/age/age/port/Graphics.java

6.11 age.event.Handler Interface Reference

Public Member Functions

- void handle (Event event)

6.11.1 Member Function Documentation

6.11.1.1 handle()

```
void age.event.Handler.handle (
            Event event )
```

The documentation for this interface was generated from the following file:

- D:/GIT/repos/ODE/age/age/event/Handler.java

6.12 age.gui.Handling Class Reference

Public Member Functions

- Handling (Widgets widgets)
- void assign (Events events)
- void handleKeyboard (Event e)
- void handlePointer (Event e)
- void handleSurface (Event e)

Private Member Functions

- void pressedFrameToFront (Event e)
- void buttonClickAction (Event e)
- void startFrameSizeAction (Event e)
- void startFrameDragAction (Event e)
- void updateActionState (Event e, String action)
- void updateFrameAction (Event e)
- void stopFrameAction (Event e)
- Widget hovered (Vector2f pos, Widget widget)

Private Attributes

- Events events
- final Widgets widgets
- Widget hovered = null
- Widget dragged = null
- String action = null
- final Vector2f ref = new Vector2f()
- final Vector2f tmp = new Vector2f()

6.12.1 Constructor & Destructor Documentation

6.12.1.1 Handling()

```
age.gui.Handling.Handling (
            Widgets widgets )
```

6.12.2 Member Function Documentation

6.12.2.1 assign()

```
void age.gui.Handling.assign (
            Events events )
```

6.12.2.2 buttonClickAction()

```
void age.gui.Handling.buttonClickAction (
            Event e )  [private]
```

6.12.2.3 handleKeyboard()

```
void age.gui.Handling.handleKeyboard (
            Event e )
```

6.12.2.4 handlePointer()

```
void age.gui.Handling.handlePointer (
            Event e )
```

6.12.2.5 handleSurface()

```
void age.gui.Handling.handleSurface (
            Event e )
```

6.12.2.6 hovered()

```
Widget age.gui.Handling.hovered (
            Vector2f pos,
            Widget widget )  [private]
```

6.12.2.7 pressedFrameToFront()

```
void age.gui.Handling.pressedFrameToFront (
            Event e )  [private]
```

6.12.2.8 startFrameDragAction()

```
void age.gui.Handling.startFrameDragAction (
            Event e )  [private]
```

6.12.2.9 startFrameSizeAction()

```
void age.gui.Handling.startFrameSizeAction (
            Event e )  [private]
```

6.12.2.10 stopFrameAction()

```
void age.gui.Handling.stopFrameAction (
            Event e )  [private]
```

6.12.2.11 updateActionState()

```
void age.gui.Handling.updateActionState (
            Event e,
            String action )  [private]
```

6.12.2.12 updateFrameAction()

```
void age.gui.Handling.updateFrameAction (
            Event e )  [private]
```

6.12.3 Member Data Documentation

6.12.3.1 action

```
String age.gui.Handling.action = null  [private]
```

6.12.3.2 dragged

```
Widget age.gui.Handling.dragged = null  [private]
```

6.12.3.3 events

```
Events age.gui.Handling.events  [private]
```

6.12.3.4 hovered

```
Widget age.gui.Handling.hovered = null  [private]
```

6.12.3.5 ref

```
final Vector2f age.gui.Handling.ref = new Vector2f()  [private]
```

6.12.3.6 tmp

```
final Vector2f age.gui.Handling.tmp = new Vector2f()  [private]
```

6.12.3.7 widgets

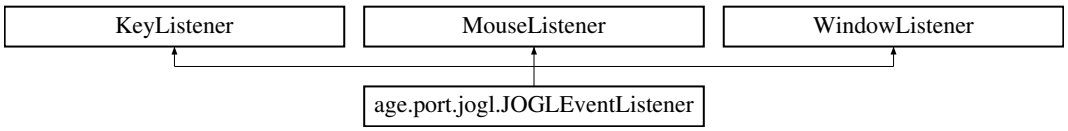
```
final Widgets age.gui.Handling.widgets  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/gui/Handling.java

6.13 age.port.jogl.JOGLEventListener Class Reference

Inheritance diagram for age.port.jogl.JOGLEventListener:



Public Member Functions

- void assign (Events events)
- void mouseClicked (MouseEvent e)
- void mouseEntered (MouseEvent e)
- void mouseExited (MouseEvent e)
- void mousePressed (MouseEvent e)
- void mouseReleased (MouseEvent e)
- void mouseMoved (MouseEvent e)
- void mouseDragged (MouseEvent e)
- void mouseWheelMoved (MouseEvent e)
- void keyPressed (KeyEvent e)
- void keyReleased (KeyEvent e)
- void windowResized (WindowEvent e)
- void windowMoved (WindowEvent e)
- void windowDestroyNotify (WindowEvent e)
- void windowDestroyed (WindowEvent e)
- void windowGainedFocus (WindowEvent e)
- void windowLostFocus (WindowEvent e)
- void windowRepaint (WindowUpdateEvent e)

Private Member Functions

- void handleSurfaceCloseRequest (Event e)
- Button translateButton (short button)
- Key translateKey (short key)

Private Attributes

- Events events = null

6.13.1 Member Function Documentation

6.13.1.1 assign()

```
void age.port.jogl.JOGLEventListener.assign (
            Events events )
```

6.13.1.2 handleSurfaceCloseRequest()

```
void age.port.jogl.JOGLEventListener.handleSurfaceCloseRequest (
            Event e )  [private]
```

6.13.1.3 keyPressed()

```
void age.port.jogl.JOGLEventListener.keyPressed (
            KeyEvent e )
```

6.13.1.4 keyReleased()

```
void age.port.jogl.JOGLEventListener.keyReleased (
            KeyEvent e )
```

6.13.1.5 mouseClicked()

```
void age.port.jogl.JOGLEventListener.mouseClicked (
            MouseEvent e )
```

6.13.1.6 mouseDragged()

```
void age.port.jogl.JOGLEventListener.mouseDragged (
            MouseEvent e )
```

6.13.1.7 mouseEntered()

```
void age.port.jogl.JOGLEventListener.mouseEntered (
            MouseEvent e )
```

6.13.1.8 mouseExited()

```
void age.port.jogl.JOGLEventListener.mouseExited (
            MouseEvent e )
```

6.13.1.9 mouseMoved()

```
void age.port.jogl.JOGLEventListener.mouseMoved (
            MouseEvent e )
```

6.13.1.10 mousePressed()

```
void age.port.jogl.JOGLEventListener.mousePressed (
            MouseEvent e )
```

6.13.1.11 mouseReleased()

```
void age.port.jogl.JOGLEventListener.mouseReleased (
            MouseEvent e )
```

6.13.1.12 mouseWheelMoved()

```
void age.port.jogl.JOGLEventListener.mouseWheelMoved (
            MouseEvent e )
```

6.13.1.13 translateButton()

```
Button age.port.jogl.JOGLEventListener.translateButton (
            short button )  [private]
```

6.13.1.14 translateKey()

```
Key age.port.jogl.JOGLEventListener.translateKey (
            short key )  [private]
```

6.13.1.15 windowDestroyed()

```
void age.port.jogl.JOGLEventListener.windowDestroyed (
            WindowEvent e )
```

6.13.1.16 windowDestroyNotify()

```
void age.port.jogl.JOGLEventListener.windowDestroyNotify (
            WindowEvent e )
```

6.13.1.17 windowGainedFocus()

```
void age.port.jogl.JOGLEventListener.windowGainedFocus (
            WindowEvent e )
```

6.13.1.18 windowLostFocus()

```
void age.port.jogl.JOGLEventListener.windowLostFocus (
            WindowEvent e )
```

6.13.1.19 windowMoved()

```
void age.port.jogl.JOGLEventListener.windowMoved (
            WindowEvent e )
```

6.13.1.20 windowRepaint()

```
void age.port.jogl.JOGLEventListener.windowRepaint (
            WindowUpdateEvent e )
```

6.13.1.21 windowResized()

```
void age.port.jogl.JOGLEventListener.windowResized (
            WindowEvent e )
```

6.13.2 Member Data Documentation

6.13.2.1 events

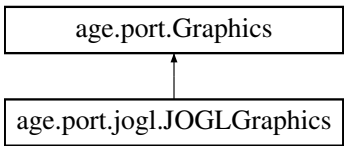
```
Events age.port.jogl.JOGLEventListener.events = null  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/port/jogl/JOGLEventListener.java

6.14 age.port.jogl.JOGLGraphics Class Reference

Inheritance diagram for age.port.jogl.JOGLGraphics:



Public Member Functions

- void assign (GLAutoDrawable drawable)
- void init ()
- void clear ()
- void mode2D ()
- void mode3D (float fovy, float near, float far)
- void pushTransformation ()
- void popTransformation ()
- void translate (Vector2f t)
- void translate (float x, float y)
- void color (Color4f c)
- void color (float r, float g, float b)
- void color (float r, float g, float b, float a)
- void rectangle (Vector2f dim, boolean hollow)
- void rectangle (Vector2f pos, Vector2f dim, boolean hollow)
- void rectangle (float x, float y, float w, float h, boolean hollow)
- void text (float x, float y, CharSequence text, String font)
- void texture (float x, float y, float w, float h, String texture)
- void calcMultitext (String text, Vector2f dimension, String font, int[ ] buffer)
- void calcMultitext (String text, float width, float height, String font, int[ ] buffer)

Private Attributes

- GLAutoDrawable drawable = null
- GL2 gl = null
- GLU glu = null
- Map< String, Texture > textures = new HashMap<>()
- Map< String, TextRenderer > fonts = new HashMap<>()

6.14.1 Member Function Documentation

6.14.1.1 assign()

```
void age.port.jogl.JOGLGraphics.assign (
            GLAutoDrawable drawable )
```

6.14.1.2 calcMultitext() [1/2]

```
void age.port.jogl.JOGLGraphics.calcMultitext (
            String text,
            float width,
            float height,
            String font,
            int[] buffer )
```

Implements age.port.Graphics.

6.14.1.3 calcMultitext() [2/2]

```
void age.port.jogl.JOGLGraphics.calcMultitext (
            String text,
            Vector2f dimension,
            String font,
            int[] buffer )
```

Implements age.port.Graphics.

6.14.1.4 clear()

```
void age.port.jogl.JOGLGraphics.clear ( )
```

6.14.1.5 color() [1/3]

```
void age.port.jogl.JOGLGraphics.color (
            Color4f c )
```

Implements age.port.Graphics.

6.14.1.6 color() [2/3]

```
void age.port.jogl.JOGLGraphics.color (
            float r,
            float g,
            float b )
```

Implements age.port.Graphics.

6.14.1.7 color() [3/3]

```
void age.port.jogl.JOGLGraphics.color (
            float r,
            float g,
            float b,
            float a )
```

Implements age.port.Graphics.

6.14.1.8 init()

```
void age.port.jogl.JOGLGraphics.init ( )
```

6.14.1.9 mode2D()

```
void age.port.jogl.JOGLGraphics.mode2D ( )
```

Implements age.port.Graphics.

6.14.1.10 mode3D()

```
void age.port.jogl.JOGLGraphics.mode3D (
            float fovy,
            float near,
            float far )
```

6.14.1.11 popTransformation()

```
void age.port.jogl.JOGLGraphics.popTransformation ( )
```

Implements age.port.Graphics.

6.14.1.12 pushTransformation()

```
void age.port.jogl.JOGLGraphics.pushTransformation ( )
```

Implements age.port.Graphics.

6.14.1.13 rectangle() [1/3]

```
void age.port.jogl.JOGLGraphics.rectangle (
            float x,
            float y,
            float w,
            float h,
            boolean hollow )
```

Implements age.port.Graphics.

6.14.1.14 rectangle() [2/3]

```
void age.port.jogl.JOGLGraphics.rectangle (
            Vector2f dim,
            boolean hollow )
```

Implements age.port.Graphics.

6.14.1.15 rectangle() [3/3]

```
void age.port.jogl.JOGLGraphics.rectangle (
            Vector2f pos,
            Vector2f dim,
            boolean hollow )
```

Implements age.port.Graphics.

6.14.1.16 text()

```
void age.port.jogl.JOGLGraphics.text (
            float x,
            float y,
            CharSequence text,
            String font )
```

Implements age.port.Graphics.

6.14.1.17 texture()

```
void age.port.jogl.JOGLGraphics.texture (
            float x,
            float y,
            float w,
            float h,
            String texture )
```

Implements age.port.Graphics.

6.14.1.18 translate() [1/2]

```
void age.port.jogl.JOGLGraphics.translate (
            float x,
            float y )
```

Implements age.port.Graphics.

6.14.1.19 translate() [2/2]

```
void age.port.jogl.JOGLGraphics.translate (
            Vector2f t )
```

Implements age.port.Graphics.

6.14.2 Member Data Documentation

6.14.2.1 drawable

```
GLAutoDrawable age.port.jogl.JOGLGraphics.drawable = null  [private]
```

6.14.2.2 fonts

```
Map<String, TextRenderer> age.port.jogl.JOGLGraphics.fonts = new HashMap<>()  [private]
```

6.14.2.3 gl

```
GL2 age.port.jogl.JOGLGraphics.gl = null  [private]
```

6.14.2.4 glu

```
GLU age.port.jogl.JOGLGraphics.glu = null  [private]
```

6.14.2.5 textures

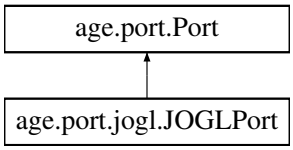
```
Map<String, Texture> age.port.jogl.JOGLGraphics.textures = new HashMap<>()  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/port/jogl/JOGLGraphics.java

6.15 age.port.jogl.JOGLPort Class Reference

Inheritance diagram for age.port.jogl.JOGLPort:



Public Member Functions

- void assign (Events events)
- String title ()
- void title (String title)
- boolean maximized ()
- void maximized (boolean maximized)
- boolean fullscreen ()
- void fullscreen (boolean fullscreen)
- boolean visible ()
- void visible (boolean visible)
- float width ()
- float height ()
- void size (float width, float height)
- void add (Renderable renderable)
- List< Renderable > get ()
- void create ()
- void render ()

Private Attributes

- GLWindow window = null
- JOGLEventListener eventListener = null
- JOGLRenderListener renderListener = null
- final List< Renderable > renderables = new ArrayList<>()
- final List< Renderable > renderables_ro = Collections.unmodifiableList(renderables)

6.15.1 Member Function Documentation

6.15.1.1 add()

```
void age.port.jogl.JOGLPort.add (
            Renderable renderable )
```

Implements age.port.Port.

6.15.1.2 assign()

```
void age.port.jogl.JOGLPort.assign (
            Events events )
```

Implements age.port.Port.

6.15.1.3 create()

```
void age.port.jogl.JOGLPort.create ( )
```

Implements age.port.Port.

6.15.1.4 fullscreen() [1/2]

```
boolean age.port.jogl.JOGLPort.fullscreen ( )
```

Implements age.port.Port.

6.15.1.5 fullscreen() [2/2]

```
void age.port.jogl.JOGLPort.fullscreen (
            boolean fullscreen )
```

Implements age.port.Port.

6.15.1.6 get()

```
List< Renderable > age.port.jogl.JOGLPort.get ( )
```

6.15.1.7 height()

```
float age.port.jogl.JOGLPort.height ( )
```

Implements age.port.Port.

6.15.1.8 maximized() [1/2]

```
boolean age.port.jogl.JOGLPort.maximized ( )
```

Implements age.port.Port.

6.15.1.9 maximized() [2/2]

```
void age.port.jogl.JOGLPort.maximized (
            boolean maximized )
```

Implements age.port.Port.

6.15.1.10 render()

```
void age.port.jogl.JOGLPort.render ( )
```

Implements age.port.Port.

6.15.1.11 size()

```
void age.port.jogl.JOGLPort.size (
            float width,
            float height )
```

Implements age.port.Port.

6.15.1.12 title() [1/2]

```
String age.port.jogl.JOGLPort.title ( )
```

Implements age.port.Port.

6.15.1.13 title() [2/2]

```
void age.port.jogl.JOGLPort.title (
            String title )
```

Implements age.port.Port.

6.15.1.14 visible() [1/2]

```
boolean age.port.jogl.JOGLPort.visible ( )
```

Implements age.port.Port.

6.15.1.15 visible() [2/2]

```
void age.port.jogl.JOGLPort.visible (
            boolean visible )
```

Implements age.port.Port.

6.15.1.16 width()

```
float age.port.jogl.JOGLPort.width ( )
```

Implements age.port.Port.

6.15.2 Member Data Documentation

6.15.2.1 eventListener

```
JOGLEventListener age.port.jogl.JOGLPort.eventListener = null  [private]
```

6.15.2.2 renderables

```
final List<Renderable> age.port.jogl.JOGLPort.renderables = new ArrayList<>()  [private]
```

6.15.2.3 renderables_ro

```
final List<Renderable> age.port.jogl.JOGLPort.renderables_ro = Collections.unmodifiable↩
List(renderables)  [private]
```

6.15.2.4 renderListener

```
JOGLRenderListener age.port.jogl.JOGLPort.renderListener = null  [private]
```

6.15.2.5 window

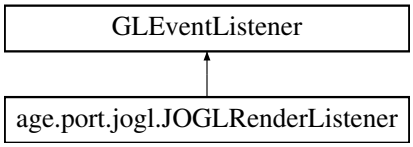
```
GLWindow age.port.jogl.JOGLPort.window = null  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/port/jogl/JOGLPort.java

6.16 age.port.jogl.JOGLRenderListener Class Reference

Inheritance diagram for age.port.jogl.JOGLRenderListener:



Public Member Functions

- JOGLRenderListener (JOGLPort port)
- void init (GLAutoDrawable drawable)
- void reshape (GLAutoDrawable drawable, int x, int y, int width, int height)
- void display (GLAutoDrawable drawable)
- void dispose (GLAutoDrawable drawable)

Private Attributes

- final JOGLPort port
- final JOGLGraphics graphics

6.16.1 Constructor & Destructor Documentation

6.16.1.1 JOGLRenderListener()

```
age.port.jogl.JOGLRenderListener.JOGLRenderListener (
            JOGLPort port )
```

6.16.2 Member Function Documentation

6.16.2.1 display()

```
void age.port.jogl.JOGLRenderListener.display (
            GLAutoDrawable drawable )
```

6.16.2.2 dispose()

```
void age.port.jogl.JOGLRenderListener.dispose (
            GLAutoDrawable drawable )
```

6.16.2.3 init()

```
void age.port.jogl.JOGLRenderListener.init (
            GLAutoDrawable drawable )
```

6.16.2.4 reshape()

```
void age.port.jogl.JOGLRenderListener.reshape (
            GLAutoDrawable drawable,
            int x,
            int y,
            int width,
            int height )
```

6.16.3 Member Data Documentation

6.16.3.1 graphics

```
final JOGLGraphics age.port.jogl.JOGLRenderListener.graphics  [private]
```

6.16.3.2 port

```
final JOGLPort age.port.jogl.JOGLRenderListener.port  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/port/jogl/JOGLRenderListener.java

6.17 age.event.Key Enum Reference

Public Attributes

- NONE
- ESCAPE
- F1
- F2
- F3
- F4
- F5
- F6
- F7
- F8
- F9
- F10
- F11
- F12
- PRINT_SCREEN
- SCROLL_LOCK
- PAUSE
- _1
- _2
- _3
- _4
- _5

- _6
- _7
- _8
- _9
- _0
- BACK_SPACE
- TAB
- ENTER
- SPACE
- Q
- W
- E
- R
- T
- Z
- U
- I
- O
- P
- A
- S
- D
- F
- G
- H
- J
- K
- L
- Y
- X
- C
- V
- B
- N
- M
- PLUS
- MINUS
- CAPS_LOCK
- SHIFT
- CONTROL
- SYSTEM
- ALT
- MENU
- INSERT
- DELETE
- POS1
- END
- PAGE_UP
- PAGE_DOWN
- UP
- DOWN
- LEFT
- RIGHT
- NUM_LOCK
- DIVIDE

- MULTIPLY
- SUBTRACT
- ADD
- DECIMAL
- NP_7
- NP_8
- NP_9
- NP_4
- NP_5
- NP_6
- NP_1
- NP_2
- NP_3
- NP_0

6.17.1 Member Data Documentation

6.17.1.1 _0

`age.event.Key._0`

6.17.1.2 _1

`age.event.Key._1`

6.17.1.3 _2

`age.event.Key._2`

6.17.1.4 _3

`age.event.Key._3`

6.17.1.5 _4

`age.event.Key._4`

6.17.1.6 _5

`age.event.Key._5`

6.17.1.7 _6

`age.event.Key._6`

6.17.1.8 _7

age.event.Key._7

6.17.1.9 _8

age.event.Key._8

6.17.1.10 _9

age.event.Key._9

6.17.1.11 A

age.event.Key.A

6.17.1.12 ADD

age.event.Key.ADD

6.17.1.13 ALT

age.event.Key.ALT

6.17.1.14 B

age.event.Key.B

6.17.1.15 BACK_SPACE

age.event.Key.BACK_SPACE

6.17.1.16 C

age.event.Key.C

6.17.1.17 CAPS_LOCK

age.event.Key.CAPS_LOCK

6.17.1.18 CONTROL

age.event.Key.CONTROL

6.17.1.19 D

age.event.Key.D

6.17.1.20 DECIMAL

age.event.Key.DECIMAL

6.17.1.21 DELETE

age.event.Key.DELETE

6.17.1.22 DIVIDE

age.event.Key.DIVIDE

6.17.1.23 DOWN

age.event.Key.DOWN

6.17.1.24 E

age.event.Key.E

6.17.1.25 END

age.event.Key.END

6.17.1.26 ENTER

age.event.Key.ENTER

6.17.1.27 ESCAPE

age.event.Key.ESCAPE

6.17.1.28 F

age.event.Key.F

6.17.1.29 F1

age.event.Key.F1

6.17.1.30 F10

age.event.Key.F10

6.17.1.31 F11

age.event.Key.F11

6.17.1.32 F12

age.event.Key.F12

6.17.1.33 F2

age.event.Key.F2

6.17.1.34 F3

age.event.Key.F3

6.17.1.35 F4

age.event.Key.F4

6.17.1.36 F5

age.event.Key.F5

6.17.1.37 F6

age.event.Key.F6

6.17.1.38 F7

age.event.Key.F7

6.17.1.39 F8

age.event.Key.F8

6.17.1.40 F9

age.event.Key.F9

6.17.1.41 G

age.event.Key.G

6.17.1.42 H

age.event.Key.H

6.17.1.43 I

age.event.Key.I

6.17.1.44 INSERT

age.event.Key.INSERT

6.17.1.45 J

age.event.Key.J

6.17.1.46 K

age.event.Key.K

6.17.1.47 L

age.event.Key.L

6.17.1.48 LEFT

age.event.Key.LEFT

6.17.1.49 M

age.event.Key.M

6.17.1.50 MENU

age.event.Key.MENU

6.17.1.51 MINUS

age.event.Key.MINUS

6.17.1.52 MULTIPLY

age.event.Key.MULTIPLY

6.17.1.53 N

age.event.Key.N

6.17.1.54 NONE

age.event.Key.NONE

6.17.1.55 NP_0

age.event.Key.NP_0

6.17.1.56 NP_1

age.event.Key.NP_1

6.17.1.57 NP_2

age.event.Key.NP_2

6.17.1.58 NP_3

age.event.Key.NP_3

6.17.1.59 NP_4

age.event.Key.NP_4

6.17.1.60 NP_5

age.event.Key.NP_5

6.17.1.61 NP_6

age.event.Key.NP_6

6.17.1.62 NP_7

age.event.Key.NP_7

6.17.1.63 NP_8

age.event.Key.NP_8

6.17.1.64 NP_9

age.event.Key.NP_9

6.17.1.65 NUM_LOCK

age.event.Key.NUM_LOCK

6.17.1.66 O

age.event.Key.O

6.17.1.67 P

age.event.Key.P

6.17.1.68 PAGE_DOWN

age.event.Key.PAGE_DOWN

6.17.1.69 PAGE_UP

age.event.Key.PAGE_UP

6.17.1.70 PAUSE

age.event.Key.PAUSE

6.17.1.71 PLUS

age.event.Key.PLUS

6.17.1.72 POS1

age.event.Key.POS1

6.17.1.73 PRINT_SCREEN

age.event.Key.PRINT_SCREEN

6.17.1.74 Q

age.event.Key.Q

6.17.1.75 R

age.event.Key.R

6.17.1.76 RIGHT

age.event.Key.RIGHT

6.17.1.77 S

age.event.Key.S

6.17.1.78 SCROLL_LOCK

age.event.Key.SCROLL_LOCK

6.17.1.79 SHIFT

age.event.Key.SHIFT

6.17.1.80 SPACE

age.event.Key.SPACE

6.17.1.81 SUBTRACT

age.event.Key.SUBTRACT

6.17.1.82 SYSTEM

age.event.Key.SYSTEM

6.17.1.83 T

age.event.Key.T

6.17.1.84 TAB

age.event.Key.TAB

6.17.1.85 U

age.event.Key.U

6.17.1.86 UP

age.event.Key.UP

6.17.1.87 V

age.event.Key.V

6.17.1.88 W

`age.event.Key.W`

6.17.1.89 X

`age.event.Key.X`

6.17.1.90 Y

`age.event.Key.Y`

6.17.1.91 Z

`age.event.Key.Z`

The documentation for this enum was generated from the following file:

- D:/GIT/repos/ODE/age/age/event/Key.java

6.18 age.log.Level Enum Reference

Public Attributes

- ERROR
- WARNING
- INFO
- DEBUG

6.18.1 Member Data Documentation

6.18.1.1 DEBUG

`age.log.Level.DEBUG`

6.18.1.2 ERROR

`age.log.Level.ERROR`

6.18.1.3 INFO

`age.log.Level.INFO`

6.18.1.4 WARNING

`age.log.Level.WARNING`

The documentation for this enum was generated from the following file:

- D:/GIT/repos/ODE/age/age/log/Level.java

6.19 age.log.Log Class Reference

Public Member Functions

- void clear ()
- void enable (Level ... levels)
- void disable (Level ... levels)
- boolean trace ()
- void trace (boolean trace)
- String format ()
- void format (String format)

Static Public Member Functions

- static void configure (String path)
- static Log get (String instance)
- static void log (Level level, String message, Object ... params)
- static void info (String message, Object ... params)
- static void warn (String message, Object ... params)
- static void error (String message, Object ... params)
- static void debug (String message, Object ... params)
- static void log (String instance, Level level, String message, Object ... params)
- static void info (String instance, String message, Object ... params)
- static void warn (String instance, String message, Object ... params)
- static void error (String instance, String message, Object ... params)
- static void debug (String instance, String message, Object ... params)

Private Member Functions

- Log ()
- Log (Log parent)
- void write (Level level, String message, Object ... params)

Private Attributes

- boolean trace = false
- Set< Level > levels = null
- String format = null

Static Private Attributes

- static final Map< String, Log > map = new HashMap<>()

6.19.1 Constructor & Destructor Documentation

6.19.1.1 Log() [1/2]

```
age.log.Log.Log ( )  [private]
```

6.19.1.2 Log() [2/2]

```
age.log.Log.Log (
            Log parent )  [private]
```

6.19.2 Member Function Documentation

6.19.2.1 clear()

```
void age.log.Log.clear ( )
```

6.19.2.2 configure()

```
static void age.log.Log.configure (
            String path )  [static]
```

6.19.2.3 debug() [1/2]

```
static void age.log.Log.debug (
            String instance,
            String message,
            Object ...  params )  [static]
```

6.19.2.4 debug() [2/2]

```
static void age.log.Log.debug (
            String message,
            Object ...  params )  [static]
```

6.19.2.5 disable()

```
void age.log.Log.disable (
            Level ...  levels )
```

6.19.2.6 enable()

```
void age.log.Log.enable (
            Level ...  levels )
```

6.19.2.7 error() [1/2]

```
static void age.log.Log.error (
            String instance,
            String message,
            Object ...  params )  [static]
```

6.19.2.8 error() [2/2]

```
static void age.log.Log.error (
            String message,
            Object ...  params )  [static]
```

6.19.2.9 format() [1/2]

```
String age.log.Log.format ( )
```

6.19.2.10 format() [2/2]

```
void age.log.Log.format (
            String format )
```

6.19.2.11 get()

```
static Log age.log.Log.get (
            String instance )  [static]
```

6.19.2.12 info() [1/2]

```
static void age.log.Log.info (
            String instance,
            String message,
            Object ...  params )  [static]
```

6.19.2.13 info() [2/2]

```
static void age.log.Log.info (
            String message,
            Object ...  params )  [static]
```

6.19.2.14 log() [1/2]

```
static void age.log.Log.log (
            Level level,
            String message,
            Object ... params ) [static]
```

6.19.2.15 log() [2/2]

```
static void age.log.Log.log (
            String instance,
            Level level,
            String message,
            Object ... params ) [static]
```

6.19.2.16 trace() [1/2]

```
boolean age.log.Log.trace ( )
```

6.19.2.17 trace() [2/2]

```
void age.log.Log.trace (
            boolean trace )
```

6.19.2.18 warn() [1/2]

```
static void age.log.Log.warn (
            String instance,
            String message,
            Object ... params ) [static]
```

6.19.2.19 warn() [2/2]

```
static void age.log.Log.warn (
            String message,
            Object ... params ) [static]
```

6.19.2.20 write()

```
void age.log.Log.write (
            Level level,
            String message,
            Object ... params ) [private]
```

6.19.3 Member Data Documentation

6.19.3.1 format

```
String age.log.Log.format = null  [private]
```

6.19.3.2 levels

```
Set<Level> age.log.Log.levels = null  [private]
```

6.19.3.3 map

```
final Map<String, Log> age.log.Log.map = new HashMap<>()  [static], [private]
```

6.19.3.4 trace

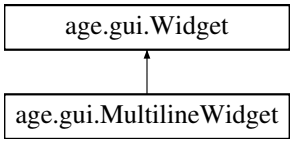
```
boolean age.log.Log.trace = false  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/log/Log.java

6.20 age.gui.MultilineWidget Class Reference

Inheritance diagram for age.gui.MultilineWidget:



Public Member Functions

- MultilineWidget ()
- void text (String text)
- int offset ()
- int count ()
- int page ()
- int lineHeight ()
- CharSequence line (int idx)
- int[ ] buffer ()

Public Member Functions inherited from age.gui.Widget

- Widget (Flag ... flags)
- float x ()
- float y ()
- float width ()
- float height ()
- Vector2f position ()
- Vector2f dimension ()
- Dock dock ()
- void dock (Dock dock)
- void dock (float top, float bottom, float left, float right)
- void position (Vector2f position)
- void position (float x, float y)
- void positionAdd (Vector2f position)
- void positionAdd (float x, float y)
- void dimension (Vector2f dimension)
- void dimension (float width, float height)
- void dimensionAdd (Vector2f dimension)
- void dimensionAdd (float width, float height)
- Set< Flag > flags ()
- void flag (Flag ... flags)
- void clear (Flag ... flags)
- boolean match (Flag ... flags)
- Widget parent ()
- List< Widget > children ()
- void add (Widget child)
- void add (int idx, Widget child)
- void remove ()
- void toFront ()
- String text ()
- String image ()
- void image (String image)
- String command ()
- void command (String command)

Private Attributes

- int offset
- int[ ] buffer = new int[1024]

6.20.1 Constructor & Destructor Documentation

6.20.1.1 MultilineWidget()

```
age.gui.MultilineWidget.MultilineWidget ( )
```

6.20.2 Member Function Documentation

6.20.2.1 buffer()

```
int[ ] age.gui.MultilineWidget.buffer ( )
```

6.20.2.2 count()

```
int age.gui.MultilineWidget.count ( )
```

6.20.2.3 line()

```
CharSequence age.gui.MultilineWidget.line (
            int idx )
```

6.20.2.4 lineHeight()

```
int age.gui.MultilineWidget.lineHeight ( )
```

6.20.2.5 offset()

```
int age.gui.MultilineWidget.offset ( )
```

6.20.2.6 page()

```
int age.gui.MultilineWidget.page ( )
```

6.20.2.7 text()

```
void age.gui.MultilineWidget.text (
            String text )
```

Reimplemented from age.gui.Widget.

6.20.3 Member Data Documentation

6.20.3.1 buffer

```
int [] age.gui.MultilineWidget.buffer = new int[1024]  [private]
```

6.20.3.2 offset

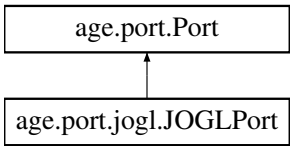
```
int age.gui.MultilineWidget.offset  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/gui/MultilineWidget.java

6.21 age.port.Port Interface Reference

Inheritance diagram for age.port.Port:



Public Member Functions

- void assign (Events events)
- String title ()
- void title (String title)
- boolean maximized ()
- void maximized (boolean maximized)
- boolean fullscreen ()
- void fullscreen (boolean fullscreen)
- boolean visible ()
- void visible (boolean visible)
- float width ()
- float height ()
- void size (float width, float height)
- void add (Renderable renderable)
- void create ()
- void render ()

6.21.1 Member Function Documentation

6.21.1.1 add()

```
void age.port.Port.add (
            Renderable renderable )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.2 assign()

```
void age.port.Port.assign (
            Events events )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.3 create()

```
void age.port.Port.create ( )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.4 fullscreen() [1/2]

```
boolean age.port.Port.fullscreen ( )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.5 fullscreen() [2/2]

```
void age.port.Port.fullscreen (
            boolean fullscreen )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.6 height()

```
float age.port.Port.height ( )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.7 maximized() [1/2]

```
boolean age.port.Port.maximized ( )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.8 maximized() [2/2]

```
void age.port.Port.maximized (
            boolean maximized )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.9 render()

```
void age.port.Port.render ( )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.10 size()

```
void age.port.Port.size (
            float width,
            float height )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.11 title() [1/2]

```
String age.port.Port.title ( )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.12 title() [2/2]

```
void age.port.Port.title (
            String title )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.13 visible() [1/2]

```
boolean age.port.Port.visible ( )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.14 visible() [2/2]

```
void age.port.Port.visible (
            boolean visible )
```

Implemented in age.port.jogl.JOGLPort.

6.21.1.15 width()

```
float age.port.Port.width ( )
```

Implemented in age.port.jogl.JOGLPort.

The documentation for this interface was generated from the following file:

- D:/GIT/repos/ODE/age/age/port/Port.java

6.22 age.port.Renderable Interface Reference

Public Member Functions

- void render (Graphics g)

6.22.1 Member Function Documentation

6.22.1.1 render()

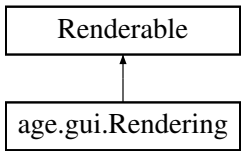
```
void age.port.Renderable.render (
            Graphics g )
```

The documentation for this interface was generated from the following file:

- D:/GIT/repos/ODE/age/age/port/Renderable.java

6.23 age.gui.Rendering Class Reference

Inheritance diagram for age.gui.Rendering:



Public Member Functions

- Rendering (Widgets widgets)
- void render (Graphics g)

Private Member Functions

- void render (Graphics g, Widget widget)
- void renderWidget (Graphics g, Widget widget)
- void renderChildren (Graphics g, List< Widget > children)

Private Attributes

- final Widgets widgets

6.23.1 Constructor & Destructor Documentation

6.23.1.1 Rendering()

```
age.gui.Rendering.Rendering (
            Widgets widgets )
```

6.23.2 Member Function Documentation

6.23.2.1 render() [1/2]

```
void age.gui.Rendering.render (
            Graphics g )
```

6.23.2.2 render() [2/2]

```
void age.gui.Rendering.render (
            Graphics g,
            Widget widget )  [private]
```

6.23.2.3 renderChildren()

```
void age.gui.Rendering.renderChildren (
            Graphics g,
            List< Widget > children )  [private]
```

6.23.2.4 renderWidget()

```
void age.gui.Rendering.renderWidget (
            Graphics g,
            Widget widget )  [private]
```

6.23.3 Member Data Documentation

6.23.3.1 widgets

```
final Widgets age.gui.Rendering.widgets  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/gui/Rendering.java

6.24 age.clock.Task Interface Reference

Public Member Functions

- void run (int count, long nanoperiod, float dT)

6.24.1 Member Function Documentation

6.24.1.1 run()

```
void age.clock.Task.run (
            int count,
            long nanoperiod,
            float dT )
```

The documentation for this interface was generated from the following file:

- D:/GIT/repos/ODE/age/age/clock/Task.java

6.25 age.task.Task Interface Reference

Public Member Functions

- void perform ()

6.25.1 Member Function Documentation

6.25.1.1 perform()

```
void age.task.Task.perform ( )
```

The documentation for this interface was generated from the following file:

- D:/GIT/repos/ODE/age/age/task/Task.java

6.26 age.task.Tasks Class Reference

Public Member Functions

- void assign (Port port)
- void assign (Client client)
- void assign (Events events)
- Tasks ()
- void put (String command)
- void assign (String command, Task task)
- void update ()

Private Member Functions

- void handleEvent (Event e)
- void construct ()
- void perform (String command)
- void toggleFullscreen ()
- void shutdown ()

Private Attributes

- final List< String > inbox = new ArrayList<>()
- final List< String > outbox = new ArrayList<>()
- final Map< String, Task > tasks = new HashMap<>()
- Port port
- Client client

6.26.1 Constructor & Destructor Documentation

6.26.1.1 Tasks()

```
age.task.Tasks.Tasks ( )
```

6.26.2 Member Function Documentation

6.26.2.1 assign() [1/4]

```
void age.task.Tasks.assign (
            Client client )
```

6.26.2.2 assign() [2/4]

```
void age.task.Tasks.assign (
            Events events )
```

6.26.2.3 assign() [3/4]

```
void age.task.Tasks.assign (
            Port port )
```

6.26.2.4 assign() [4/4]

```
void age.task.Tasks.assign (
            String command,
            Task task )
```

6.26.2.5 construct()

```
void age.task.Tasks.construct ( )  [private]
```

6.26.2.6 handleEvent()

```
void age.task.Tasks.handleEvent (
            Event e )  [private]
```

6.26.2.7 perform()

```
void age.task.Tasks.perform (
            String command )  [private]
```

6.26.2.8 put()

```
void age.task.Tasks.put (
            String command )
```

6.26.2.9 shutdown()

```
void age.task.Tasks.shutdown ( )  [private]
```

6.26.2.10 toggleFullscreen()

```
void age.task.Tasks.toggleFullscreen ( )  [private]
```

6.26.2.11 update()

```
void age.task.Tasks.update ( )
```

6.26.3 Member Data Documentation

6.26.3.1 client

```
Client age.task.Tasks.client  [private]
```

6.26.3.2 inbox

```
final List<String> age.task.Tasks.inbox = new ArrayList<>()  [private]
```

6.26.3.3 outbox

```
final List<String> age.task.Tasks.outbox = new ArrayList<>()  [private]
```

6.26.3.4 port

```
Port age.task.Tasks.port  [private]
```

6.26.3.5 tasks

```
final Map<String, Task> age.task.Tasks.tasks = new HashMap<>()  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/task/Tasks.java

6.27 age.event.Type Enum Reference

Public Attributes

- NONE
- KEY_PRESSED
- KEY_RELEASED
- KEY_TYPED
- POINTER_ENTERED
- POINTER_EXITED
- POINTER_PRESSED
- POINTER_RELEASED
- POINTER_CLICKED
- POINTER_MOVED
- SURFACE_RESIZED
- SURFACE_CLOSE_REQUEST
- TASK_COMMAND

6.27.1 Member Data Documentation

6.27.1.1 KEY_PRESSED

```
age.event.Type.KEY_PRESSED
```

6.27.1.2 KEY_RELEASED

```
age.event.Type.KEY_RELEASED
```

6.27.1.3 KEY_TYPED

```
age.event.Type.KEY_TYPED
```

6.27.1.4 NONE

```
age.event.Type.NONE
```

6.27.1.5 POINTER_CLICKED

`age.event.Type.POINTER_CLICKED`

6.27.1.6 POINTER_ENTERED

`age.event.Type.POINTER_ENTERED`

6.27.1.7 POINTER_EXITED

`age.event.Type.POINTER_EXITED`

6.27.1.8 POINTER_MOVED

`age.event.Type.POINTER_MOVED`

6.27.1.9 POINTER_PRESSED

`age.event.Type.POINTER_PRESSED`

6.27.1.10 POINTER_RELEASED

`age.event.Type.POINTER_RELEASED`

6.27.1.11 SURFACE_CLOSE_REQUEST

`age.event.Type.SURFACE_CLOSE_REQUEST`

6.27.1.12 SURFACE_RESIZED

`age.event.Type.SURFACE_RESIZED`

6.27.1.13 TASK_COMMAND

`age.event.Type.TASK_COMMAND`

The documentation for this enum was generated from the following file:

- D:/GIT/repos/ODE/age/age/event/Type.java

6.28 age.Util Class Reference

Static Public Member Functions

- static final String readFile (String path)

6.28.1 Member Function Documentation

6.28.1.1 readFile()

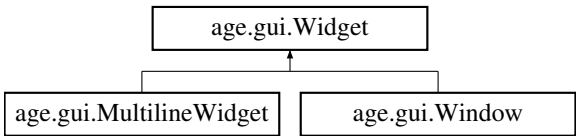
```
static final String age.Util.readFile (
            String path )  [static]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/Util.java

6.29 age.gui.Widget Class Reference

Inheritance diagram for age.gui.Widget:



Public Member Functions

- Widget (Flag ... flags)
- float x ()
- float y ()
- float width ()
- float height ()
- Vector2f position ()
- Vector2f dimension ()
- Dock dock ()
- void dock (Dock dock)
- void dock (float top, float bottom, float left, float right)
- void position (Vector2f position)
- void position (float x, float y)
- void positionAdd (Vector2f position)
- void positionAdd (float x, float y)
- void dimension (Vector2f dimension)
- void dimension (float width, float height)
- void dimensionAdd (Vector2f dimension)
- void dimensionAdd (float width, float height)
- Set< Flag > flags ()
- void flag (Flag ... flags)

- void clear (Flag ... flags)
- boolean match (Flag ... flags)
- Widget parent ()
- List< Widget > children ()
- void add (Widget child)
- void add (int idx, Widget child)
- void remove ()
- void toFront ()
- String text ()
- void text (String text)
- String image ()
- void image (String image)
- String command ()
- void command (String command)

Private Member Functions

- void resized (float dx, float dy)
- void parentResized (float dx, float dy)

Private Attributes

- final Set< Flag > flags = EnumSet.noneOf(Flag.class)
- final Set< Flag > flags_ro = Collections.unmodifiableSet(flags)
- final Vector2f position = new Vector2f()
- final Vector2f dimension = new Vector2f()
- final Dock dock = new Dock()
- Widget parent = null
- final List< Widget > children = new ArrayList<>(10)
- final List< Widget > children_ro = Collections.unmodifiableList(children)
- String text = null
- String image = null
- String command = null

6.29.1 Constructor & Destructor Documentation

6.29.1.1 Widget()

```
age.gui.Widget.Widget (
            Flag ...  flags )
```

6.29.2 Member Function Documentation

6.29.2.1 add() [1/2]

```
void age.gui.Widget.add (
            int idx,
            Widget child )
```

6.29.2.2 add() [2/2]

```
void age.gui.Widget.add (
            Widget child )
```

6.29.2.3 children()

```
List< Widget > age.gui.Widget.children ( )
```

6.29.2.4 clear()

```
void age.gui.Widget.clear (
            Flag ... flags )
```

6.29.2.5 command() [1/2]

```
String age.gui.Widget.command ( )
```

6.29.2.6 command() [2/2]

```
void age.gui.Widget.command (
            String command )
```

6.29.2.7 dimension() [1/3]

```
Vector2f age.gui.Widget.dimension ( )
```

6.29.2.8 dimension() [2/3]

```
void age.gui.Widget.dimension (
            float width,
            float height )
```

6.29.2.9 dimension() [3/3]

```
void age.gui.Widget.dimension (
            Vector2f dimension )
```

6.29.2.10 dimensionAdd() [1/2]

```
void age.gui.Widget.dimensionAdd (
            float width,
            float height )
```

6.29.2.11 dimensionAdd() [2/2]

```
void age.gui.Widget.dimensionAdd (
            Vector2f dimension )
```

6.29.2.12 dock() [1/3]

```
Dock age.gui.Widget.dock ( )
```

6.29.2.13 dock() [2/3]

```
void age.gui.Widget.dock (
            Dock dock )
```

6.29.2.14 dock() [3/3]

```
void age.gui.Widget.dock (
            float top,
            float bottom,
            float left,
            float right )
```

6.29.2.15 flag()

```
void age.gui.Widget.flag (
            Flag ...  flags )
```

6.29.2.16 flags()

```
Set< Flag > age.gui.Widget.flags ( )
```

6.29.2.17 height()

```
float age.gui.Widget.height ( )
```

6.29.2.18 image() [1/2]

```
String age.gui.Widget.image ( )
```

6.29.2.19 image() [2/2]

```
void age.gui.Widget.image (
            String image )
```

6.29.2.20 match()

```
boolean age.gui.Widget.match (
            Flag ...  flags )
```

6.29.2.21 parent()

```
Widget age.gui.Widget.parent ( )
```

6.29.2.22 parentResized()

```
void age.gui.Widget.parentResized (
            float dx,
            float dy )  [private]
```

6.29.2.23 position() [1/3]

```
Vector2f age.gui.Widget.position ( )
```

6.29.2.24 position() [2/3]

```
void age.gui.Widget.position (
            float x,
            float y )
```

6.29.2.25 position() [3/3]

```
void age.gui.Widget.position (
            Vector2f position )
```

6.29.2.26 positionAdd() [1/2]

```
void age.gui.Widget.positionAdd (
            float x,
            float y )
```

6.29.2.27 positionAdd() [2/2]

```
void age.gui.Widget.positionAdd (
            Vector2f position )
```

6.29.2.28 remove()

```
void age.gui.Widget.remove ( )
```

6.29.2.29 resized()

```
void age.gui.Widget.resized (
            float dx,
            float dy )  [private]
```

6.29.2.30 text() [1/2]

```
String age.gui.Widget.text ( )
```

6.29.2.31 text() [2/2]

```
void age.gui.Widget.text (
            String text )
```

Reimplemented in age.gui.MultilineWidget.

6.29.2.32 toFront()

```
void age.gui.Widget.toFront ( )
```

6.29.2.33 width()

```
float age.gui.Widget.width ( )
```

6.29.2.34 x()

```
float age.gui.Widget.x ( )
```

6.29.2.35 y()

```
float age.gui.Widget.y ( )
```

6.29.3 Member Data Documentation

6.29.3.1 children

```
final List<Widget> age.gui.Widget.children = new ArrayList<>(10)  [private]
```

6.29.3.2 children_ro

```
final List<Widget> age.gui.Widget.children_ro = Collections.unmodifiableList(children)  [private]
```

6.29.3.3 command

```
String age.gui.Widget.command = null  [private]
```

6.29.3.4 dimension

```
final Vector2f age.gui.Widget.dimension = new Vector2f()  [private]
```

6.29.3.5 dock

```
final Dock age.gui.Widget.dock = new Dock()  [private]
```

6.29.3.6 flags

```
final Set<Flag> age.gui.Widget.flags = EnumSet.noneOf(Flag.class)  [private]
```

6.29.3.7 flags_ro

```
final Set<Flag> age.gui.Widget.flags_ro = Collections.unmodifiableSet(flags)  [private]
```

6.29.3.8 image

```
String age.gui.Widget.image = null  [private]
```

6.29.3.9 parent

```
Widget age.gui.Widget.parent = null  [private]
```

6.29.3.10 position

```
final Vector2f age.gui.Widget.position = new Vector2f()  [private]
```

6.29.3.11 text

```
String age.gui.Widget.text = null  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/gui/Widget.java

6.30 age.gui.Widgets Class Reference

Public Member Functions

- Widgets ()
- void assign (Port port)
- void assign (Events events)
- Widget root ()

Private Attributes

- Widget root = new Widget()
- Handling handling = new Handling(this)
- Rendering rendering = new Rendering(this)

6.30.1 Constructor & Destructor Documentation

6.30.1.1 Widgets()

```
age.gui.Widgets.Widgets ( )
```

6.30.2 Member Function Documentation

6.30.2.1 assign() [1/2]

```
void age.gui.Widgets.assign (
            Events events )
```

6.30.2.2 assign() [2/2]

```
void age.gui.Widgets.assign (
            Port port )
```

6.30.2.3 root()

```
Widget age.gui.Widgets.root ( )
```

6.30.3 Member Data Documentation

6.30.3.1 handling

```
Handling age.gui.Widgets.handling = new Handling(this)  [private]
```

6.30.3.2 rendering

```
Rendering age.gui.Widgets.rendering = new Rendering(this)  [private]
```

6.30.3.3 root

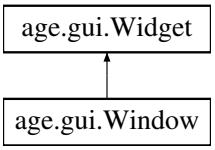
```
Widget age.gui.Widgets.root = new Widget()  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/gui/Widgets.java

6.31 age.gui.Window Class Reference

Inheritance diagram for age.gui.Window:



Public Member Functions

- Window (Flag ... flags)
- String title ()
- void title (String title)
- Widget getPage ()

Public Member Functions inherited from age.gui.Widget

- Widget (Flag ... flags)
- float x ()
- float y ()
- float width ()
- float height ()
- Vector2f position ()
- Vector2f dimension ()
- Dock dock ()
- void dock (Dock dock)
- void dock (float top, float bottom, float left, float right)
- void position (Vector2f position)
- void position (float x, float y)
- void positionAdd (Vector2f position)
- void positionAdd (float x, float y)
- void dimension (Vector2f dimension)
- void dimension (float width, float height)
- void dimensionAdd (Vector2f dimension)

- void dimensionAdd (float width, float height)
- Set< Flag > flags ()
- void flag (Flag ... flags)
- void clear (Flag ... flags)
- boolean match (Flag ... flags)
- Widget parent ()
- List< Widget > children ()
- void add (Widget child)
- void add (int idx, Widget child)
- void remove ()
- void toFront ()
- String text ()
- void text (String text)
- String image ()
- void image (String image)
- String command ()
- void command (String command)

Private Member Functions

- void construct ()

Private Attributes

- Widget title = new Widget()
- Widget size = new Widget()
- Widget close = new Widget()
- Widget page = new Widget()

6.31.1 Constructor & Destructor Documentation

6.31.1.1 Window()

```
age.gui.Window.Window (
            Flag ...  flags )
```

6.31.2 Member Function Documentation

6.31.2.1 construct()

```
void age.gui.Window.construct ( )  [private]
```

6.31.2.2 getPage()

```
Widget age.gui.Window.getPage ( )
```

6.31.2.3 title() [1/2]

```
String age.gui.Window.title ( )
```

6.31.2.4 title() [2/2]

```
void age.gui.Window.title (
            String title )
```

6.31.3 Member Data Documentation

6.31.3.1 close

```
Widget age.gui.Window.close = new Widget()  [private]
```

6.31.3.2 page

```
Widget age.gui.Window.page = new Widget()  [private]
```

6.31.3.3 size

```
Widget age.gui.Window.size = new Widget()  [private]
```

6.31.3.4 title

```
Widget age.gui.Window.title = new Widget()  [private]
```

The documentation for this class was generated from the following file:

- D:/GIT/repos/ODE/age/age/gui/Window.java

Chapter 7

File Documentation

7.1 D:/GIT/repos/ODE/age/age/AGEException.java File Reference

Classes

- class age.AGEException

Packages

- package age

7.2 D:/GIT/repos/ODE/age/age/Client.java File Reference

```
import age.port.Port;
```

Classes

- class age.Client

Packages

- package age

7.3 D:/GIT/repos/ODE/age/age/clock/Alarm.java File Reference

Classes

- class age.clock.Alarm

Packages

- package age.clock

7.4 D:/GIT/repos/ODE/age/age/clock/Clock.java File Reference

```
import java.util.ArrayList;
```

Classes

- class age.clock.Clock

Packages

- package age.clock

7.5 D:/GIT/repos/ODE/age/age/clock/Task.java File Reference

Classes

- interface age.clock.Task

Packages

- package age.clock

7.6 D:/GIT/repos/ODE/age/age/task/Task.java File Reference

Classes

- interface age.task.Task

Packages

- package age.task

7.7 D:/GIT/repos/ODE/age/age/event/Button.java File Reference

Classes

- enum age.event.Button

Packages

- package age.event

7.8 D:/GIT/repos/ODE/age/age/event/Event.java File Reference

```
import javax.vecmath.Vector2f;
```

Classes

- class age.event.Event

Packages

- package age.event

7.9 D:/GIT/repos/ODE/age/age/event/Events.java File Reference

```
import java.util.ArrayList;
```

Classes

- class age.event.Events

Packages

- package age.event

7.10 D:/GIT/repos/ODE/age/age/event/Handler.java File Reference

Classes

- interface age.event.Handler

Packages

- package age.event

7.11 D:/GIT/repos/ODE/age/age/event/Key.java File Reference

Classes

- enum age.event.Key

Packages

- package age.event

7.12 D:/GIT/repos/ODE/age/age/event/Type.java File Reference

Classes

- enum age.event.Type

Packages

- package age.event

7.13 D:/GIT/repos/ODE/age/age/gui/Dock.java File Reference

Classes

- class age.gui.Dock

Packages

- package age.gui

7.14 D:/GIT/repos/ODE/age/age/gui/Flag.java File Reference

Classes

- enum age.gui.Flag

Packages

- package age.gui

7.15 D:/GIT/repos/ODE/age/age/gui/Handling.java File Reference

```
import java.util.ArrayList;
```

Classes

- class age.gui.Handling

Packages

- package age.gui

7.16 D:/GIT/repos/ODE/age/age/gui/MultilineWidget.java File Reference

Classes

- class age.gui.MultilineWidget

Packages

- package age.gui

7.17 D:/GIT/repos/ODE/age/age/gui/Rendering.java File Reference

```
import java.util.List;
```

Classes

- class age.gui.Rendering

Packages

- package age.gui

7.18 D:/GIT/repos/ODE/age/age/gui/Widget.java File Reference

```
import java.util.ArrayList;
```

Classes

- class age.gui.Widget

Packages

- package age.gui

7.19 D:/GIT/repos/ODE/age/age/gui/Widgets.java File Reference

```
import age.event.Events;
```

Classes

- class age.gui.Widgets

Packages

- package age.gui

7.20 D:/GIT/repos/ODE/age/age/gui/Window.java File Reference

Classes

- class age.gui.Window

Packages

- package age.gui

7.21 D:/GIT/repos/ODE/age/age/log/Level.java File Reference

Classes

- enum age.log.Level

Packages

- package age.log

7.22 D:/GIT/repos/ODE/age/age/log/Log.java File Reference

```
import java.io.File;
```

Classes

- class age.log.Log

Packages

- package age.log

7.23 D:/GIT/repos/ODE/age/age/port/Graphics.java File Reference

```
import javax.vecmath.Color4f;
```

Classes

- interface age.port.Graphics

Packages

- package age.port

7.24 D:/GIT/repos/ODE/age/age/port/jogl/JOGLEventListener.java File Reference

```
import com.jogamp.newt.Window;
```

Classes

- class age.port.jogl.JOGLEventListener

Packages

- package age.port.jogl

7.25 D:/GIT/repos/ODE/age/age/port/jogl/JOGLGraphics.java File Reference

```
import com.jogamp.opengl.GL2;
```

Classes

- class age.port.jogl.JOGLGraphics

Packages

- package age.port.jogl

7.26 D:/GIT/repos/ODE/age/age/port/jogl/JOGLPort.java File Reference

```
import java.util.ArrayList;
```

Classes

- class age.port.jogl.JOGLPort

Packages

- package age.port.jogl

7.27 D:/GIT/repos/ODE/age/age/port/jogl/JOGLRenderListener.java File Reference

```
import com.jogamp.opengl.GLAutoDrawable;
```

Classes

- class age.port.jogl.JOGLRenderListener

Packages

- package age.port.jogl

7.28 D:/GIT/repos/ODE/age/age/port/Port.java File Reference

```
import age.event.Events;
```

Classes

- interface age.port.Port

Packages

- package age.port

7.29 D:/GIT/repos/ODE/age/age/port/Renderable.java File Reference

Classes

- interface age.port.Renderable

Packages

- package age.port

7.30 D:/GIT/repos/ODE/age/age/task/Tasks.java File Reference

```
import java.util.ArrayList;
```

Classes

- class age.task.Tasks

Packages

- package age.task

7.31 D:/GIT/repos/ODE/age/age/Util.java File Reference

```
import java.io.BufferedReader;
```

Classes

- class age.Util

Packages

- package age

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