Simulation Laby

Generated by Doxygen 1.8.13

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1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 3

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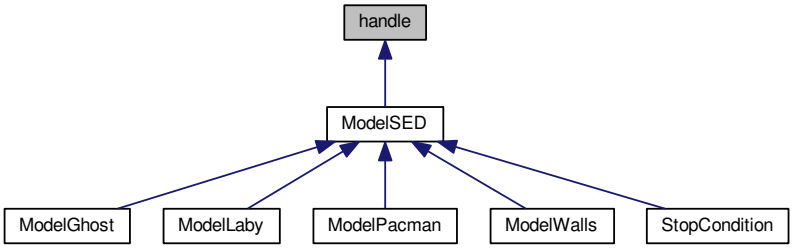
Here is a list of all files with brief descriptions:

Chapter 4

Class Documentation

4.1 handle Class Reference

Inheritance diagram for handle:



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

- ModelSED.m

4.2 ModelCommand Class Reference

Public Member Functions

- function f (in obj, in presentState)
- function m (in obj, in presentState, in init)
- function g (in obj)

Public Attributes

- Property sizeTab
- Property knowCompart
- Property presentState
- Property Down
- Property Left
- Property Up
- Property Right

4.2.1 Member Function Documentation

4.2.1.1 f()

```
function f (
            in obj,
            in presentState )
```

4.2.1.2 g()

```
function g (
            in obj )
```

4.2.1.3 m()

```
function m (
            in obj,
            in presentState,
            in init )
```

4.2.2 Member Data Documentation

4.2.2.1 Down

```
Property Down
```

4.2.2.2 knowCompart

```
Property knowCompart
```

4.2.2.3 Left

```
Property Left
```

4.2.2.4 presentState

```
Property presentState
```

4.2.2.5 Right

```
Property Right
```

4.2.2.6 sizeTab

```
Property sizeTab
```

4.2.2.7 Up

```
Property Up
```

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

- ModelCommand.m

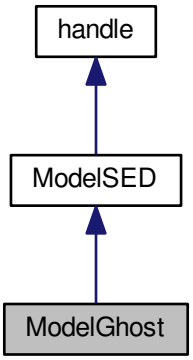
4.3 ModelGhost Class Reference

MODELGhost Summary of this class goes here
Input : Possible ghost's moves [Up Down Left Right]
0 = move not possible ; 1 = move possible
(Wout{7})

Output : Ghost's moves 1 : ghostLeftBut, (Wout(3))
2 : ghostUpBut, (Wout(1))
3 : ghostRightBut, (Wout(4))
4 : ghostDownBut , (Wout(2))
(Win(4:7) of wrapper)

in: Walls around ghost
1 up
2 down
.

Inheritance diagram for ModelGhost:



Public Member Functions

- function ModelGhost (in initialValue)

  Class constructor.
- function f (in obj, in in, in in_view, in wallsV, in wallsH, in ghost_position)

  Compute the evolution of the command.
- function m (in obj, in nextState, in init)

  Memory method update the state of the command.
- function g (in obj)

  Create the outputs.
- virtual f (in obj, in in)

  Compute the evolution of the model.

Public Attributes

- Property presentState

  This is the state of the command in the present moment.
- Property initialState

  This is the state of the command in the initialization and when it's reseted.

4.3.1 Detailed Description

MODELGhost Summary of this class goes here
Input : Possible ghost's moves [Up Down Left Right]
0 = move not possible ; 1 = move possible
(Wout{7})

Output : Ghost's moves 1 : ghostLeftBut, (Wout(3))
2 : ghostUpBut, (Wout(1))
3 : ghostRightBut, (Wout(4))
4 : ghostDownBut , (Wout(2))
(Win(4:7) of wrapper)

in: Walls around ghost
1 up
2 down
.

4 right

in_view: Ghost sees Pacman
1 Up
2 Down
3 Left
4 Right
state :

This command P(D) > P(B) > P(H) > P(G)

4.3.2 Constructor & Destructor Documentation

4.3.2.1 ModelGhost()

```
function ModelGhost (
            in initialValue )
```

Class constructor.

Parameters

initialValue	Contain the initial state

Returns

instance of the ModelGhost class.

4.3.3 Member Function Documentation

4.3.3.1 f() [1/2]

```
virtual f (
            in obj,
            in in )  [virtual], [inherited]
```

Compute the evolution of the model.

Parameters

obj	The instance who evolute
in	Input needed for the computing

Return values

nextState	The future state of the model

Reimplemented in ModelPacman, and ModelLaby.

4.3.3.2 f() [2/2]

```
function f (
            in obj,
            in in,
            in in_view,
            in wallsV,
            in wallsH,
            in ghost_position )
```

Compute the evolution of the command.

It takes more inputs than ModelSED because ghost can use more information from the laby

Parameters

obj	The instance who evolute
in	Input vector needed for the compute (walls around Ghost)
in_view	Vector of Information about ghost sees Pacman
wallsV	Matrix of vertical Walls
wallsH	Matrix of horizontal Walls
ghost_position	Cartesian vector of Ghost Position

Return values

nextState	The future state of the Ghost command

4.3.3.3 g()

```
function g (
            in obj )  [virtual]
```

Create the outputs.

Parameters

obj	the concerned instance of the class

Return values

out	The output who is the command.

Reimplemented from ModelSED.

4.3.3.4 m()

```
function m (
            in obj,
            in nextState,
            in init )  [virtual]
```

Memory method update the state of the command.

Parameters

obj	The selected instance of the class
nextState	The value of the state need to update
init	Boolean condition for initialize or reset the command

Returns

instance of the class updated

Reimplemented from ModelSED.

4.3.4 Member Data Documentation

4.3.4.1 initialState

`Property initialState`

This is the state of the command in the initialization and when it's reseted.

4.3.4.2 presentState

`Property presentState`

This is the state of the command in the present moment.

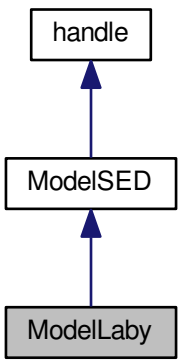
The documentation for this class was generated from the following file:

- ModelGhost.m

4.4 ModelLaby Class Reference

Class which contains the "fmg" structure of the labyrinth for 2 players

Inheritance diagram for ModelLaby:



Public Member Functions

- function ModelLaby (in wallsV_init, in wallsH_init, in pacman_init, in ghost_init, in escape_init, in caught_init)

  Class constructor of.
- function f (in obj, in in)

  Compute the evolution of the model.
- function m (in obj, in nextState, in init)

  Memory method update the state of the command.
- function g (in obj)

  Create the outputs in a 1x9 cell-array.
- function sameX_position (in obj)

  Method to analyze Ghost and Pacman Position.
- function sameY_position (in obj)

  Method to analyze Ghost and Pacman Position.
- function wallsVBetween (in obj, in obj1, in obj2)

  Method to analyze if a Vertical wall is between 2 objects.
- function wallsHBetween (in obj, in obj1, in obj2)

  Method to analyze if a Horizontal wall is between 2 objects.
- function wallsVBetweenOne (in obj, in obj1, in obj2)

  Method to analyze if a Horizontal wall is between 2 objects side by side.
- function wallsHBetweenOne (in obj, in obj1, in obj2)

  Method to analyze if a Horizontal wall is between 2 objects side by side.

Public Attributes

- Property presentState

  Data Structure of the current state of Labyrinth.
  It contains "wallsV", "wallsH" (2 matrix for the walls), "ghost", "pacman" and "escape" , a Cartesian position of current position of ghost, pacman and escape.
  There is also 3 vectors : 'wallsAroundPacman', 'wallsAroundGhost' and 'ghostSeesPacman' A vector indicating the presence of a wall around the Pacman and ghost for the 4 directions Up Down Left Right.
- Property initialState

  Data Structure of the initial state of Labyrinth. It contains "wallsV", "wallsH" (2 matrix for the walls), "escape" and "pacman", a Cartesian position of current position of escape and pacman and 'wallsAroundPacman' A vector indicating the presence of a wall around the Pacman for the 4 directions Up Down Left Right.

4.4.1 Detailed Description

Class which contains the "fmg" structure of the labyrinth for 2 players

Input : necessary information for compute the next state of the model

Output : output's action of the model

State : minimal information necessary who evolute

4.4.2 Constructor & Destructor Documentation

4.4.2.1 ModelLaby()

```
function ModelLaby (
            in wallsV_init,
            in wallsH_init,
            in pacman_init,
            in ghost_init,
            in escape_init,
            in caught_init )
```

Class constructor of.

Parameters

wallsV_init	Contain a matrix (N, N-1) of Initial Vertical Walls.
wallsH_init	Contain a matrix (N-1, N) of Initial Horizontal Walls.
pacman_init	Contain a vector (x, y) of Initial Position of Pacman.
pacman_init	Contain a vector (x, y) of Initial Position of Ghost.
escape_init	Contain a vector (x, y) of Escape 's Position.
caught_init	Contain a integer of the number of times the Pacman was caught by the ghost.

Returns

instance of the ModelLaby class.

4.4.3 Member Function Documentation

4.4.3.1 f()

```
function f (
            in obj,
            in in )  [virtual]
```

Compute the evolution of the model.

Parameters

obj	The instance which will evolve.
in	Input needed for the computing.

Return values

nextState	Next instance of the ModelLaby class.

Reimplemented from ModelSED.

4.4.3.2 g()

```
function g (
            in obj )  [virtual]
```

Create the outputs in a 1x9 cell-array.

Parameters

obj	the concerned instance of the class

Return values

out	Constructed output 1x9 cell-array of the model

Reimplemented from ModelSED.

4.4.3.3 m()

```
function m (
            in obj,
            in nextState,
            in init )  [virtual]
```

Memory method update the state of the command.

Parameters

obj	The selected instance of the class
nextState	The value of the state need to update
init	Boolean condition for initialize or reset the command

Returns

instance of the class updated

Reimplemented from ModelSED.

4.4.3.4 sameX_position()

```
function sameX_position (
            in obj )
```

Method to analyze Ghost and Pacman Position.

Parameters

obj	Current Instance of the Labyrinth 1 if ghost and Pacman are on the same X colon

4.4.3.5 sameY_position()

```
function sameY_position (
            in obj )
```

Method to analyze Ghost and Pacman Position.

Parameters

obj	Current Instance of the Labyrinth 1 if ghost and Pacman are on the same Y line

4.4.3.6 wallsHBetween()

```
function wallsHBetween (
            in obj,
            in obj1,
            in obj2 )
```

Method to analyze if a Horizontal wall is between 2 objects.

Parameters

obj	Current Instance of the Labyrinth
obj1	Cartesian position of object 1
obj2	Cartesian position of object 2 1 if there No Horizontal wall Between Object 1 and Object 2

4.4.3.7 wallsHBetweenOne()

```
function wallsHBetweenOne (
            in obj,
            in obj1,
            in obj2 )
```

Method to analyze if a Horizontal wall is between 2 objects side by side.

Parameters

obj	Current Instance of the Labyrinth
obj1	Cartesian position of object 1
obj2	Cartesian position of object 2 1 if there No Horizontal wall Between Object 1 and Object 2

4.4.3.8 wallsVBetween()

```
function wallsVBetween (
            in obj,
            in obj1,
            in obj2 )
```

Method to analyze if a Vertical wall is between 2 objects.

Parameters

obj	Current Instance of the Labyrinth
obj1	Cartesian position of object 1
obj2	Cartesian position of object 2 1 if there No Vertical wall Between Object 1 and Object 2

4.4.3.9 wallsVBetweenOne()

```
function wallsVBetweenOne (
            in obj,
            in obj1,
            in obj2 )
```

Method to analyze if a Horizontal wall is between 2 objects side by side.

Parameters

obj	Current Instance of the Labyrinth
obj1	Cartesian position of object 1
obj2	Cartesian position of object 2 1 if there No Horizontal wall Between Object 1 and Object 2

4.4.4 Member Data Documentation

4.4.4.1 initialState

```
Property initialState
```

Data Structure of the initial state of Labyrinth. It contains "wallsV", "wallsH" (2 matrix for the walls), "escape" and "pacman", a Cartesian position of current position of escape and pacman and 'wallsAroundPacman' A vector indicating the presence of a wall around the Pacman for the 4 directions Up Down Left Right.

4.4.4.2 presentState

`Property presentState`

Data Structure of the current state of Labyrinth.
It contains "wallsV", "wallsH" (2 matrix for the walls), "ghost", "pacman" and "escape" , a Cartesian position of current position of ghost, pacman and escape.
There is also 3 vectors : 'wallsAroundPacman', 'wallsAroundGhost' and 'ghostSeesPacman' A vector indicating the presence of a wall around the Pacman and ghost for the 4 directions Up Down Left Right.

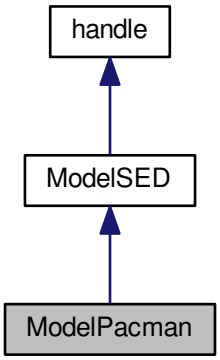
The documentation for this class was generated from the following file:

- ModelLaby.m

4.5 ModelPacman Class Reference

Input : Walls around Pacman
1 up
2 down
3 left
4 right
This command do the sequence P(D) $>$ P(B) $>$ P(H) $>$ P(G)
.

Inheritance diagram for ModelPacman:



Public Member Functions

- function ModelPacman (in initialValue)
  Class constructor.
- function f (in obj, in in)
  Compute the evolution of the command.
- function m (in obj, in nextState, in init)
  Memory method update the state of the command.
- function g (in obj)
  Create the outputs.

Public Attributes

- Property presentState

  This is the state of the command in the present moment.
- Property initialState

  This is the state of the command in the initialization and when it's reseted.
- Property memory

  This is another state who deed to be include.
- Property i

4.5.1 Detailed Description

Input : Walls around Pacman
1 up
2 down
3 left
4 right
This command do the sequence P(D) > P(B) > P(H) > P(G)
.

4.5.2 Constructor & Destructor Documentation

4.5.2.1 ModelPacman()

```
function ModelPacman (
            in initialValue )
```

Class constructor.

Parameters

initialValue	Contain the initial state

Returns

instance of the ModelPacman class.

4.5.3 Member Function Documentation

4.5.3.1 f()

```
function f (
            in obj,
            in in )  [virtual]
```

Compute the evolution of the command.

Parameters

obj	The instance who evolute
in	Input needed for the compute

Return values

nextState	The future state of the Pacman command

Reimplemented from ModelSED.

4.5.3.2 g()

```
function g (
            in obj )  [virtual]
```

Create the outputs.

Parameters

obj	the concerned instance of the class

Return values

out	The output who is the command.

Reimplemented from ModelSED.

4.5.3.3 m()

```
function m (
            in obj,
            in nextState,
            in init )  [virtual]
```

Memory method update the state of the command.

Parameters

obj	The selected instance of the class
nextState	The value of the state need to update
init	Boolean condition for initialize or reset the command

Returns

instance of the class updated

Reimplemented from ModelSED.

4.5.4 Member Data Documentation

4.5.4.1 i

```
Property i
```

4.5.4.2 initialState

```
Property initialState
```

This is the state of the command in the initialization and when it's reseted.

4.5.4.3 memory

```
Property memory
```

This is another state who deed to be include.

4.5.4.4 presentState

```
Property presentState
```

This is the state of the command in the present moment.

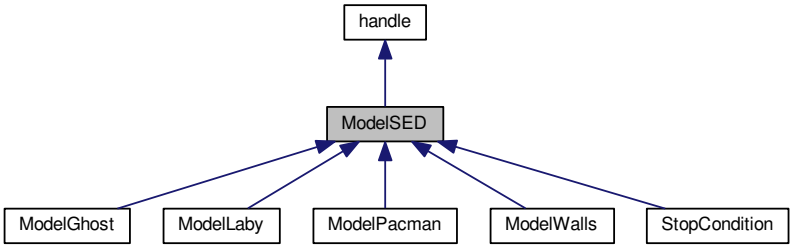
The documentation for this class was generated from the following file:

- ModelPacman.m

4.6 ModelSED Class Reference

State : minimal information necessary who evolute.

Inheritance diagram for ModelSED:



Public Member Functions

- virtual f (in obj, in in)

  Compute the evolution of the model.
- virtual m (in obj, in nextState, in init)

  Memory method update the state of the command.
- virtual g (in obj)

  Create the outputs.

Public Attributes

- Property presentState

  This is the state of the command in the present moment.
- Property initialState

  This is the state of the command in the initialization and when it's reseted.

4.6.1 Detailed Description

State : minimal information necessary who evolute.

4.6.2 Member Function Documentation

4.6.2.1 f()

```
virtual f (
            in obj,
            in in )  [virtual]
```

Compute the evolution of the model.

Parameters

obj	The instance who evolute
in	Input needed for the computing

Return values

nextState	The future state of the model

Reimplemented in ModelPacman, and ModelLaby.

4.6.2.2 g()

```
virtual g (
            in obj )  [virtual]
```

Create the outputs.

Parameters

obj	the concerned instance of the class

Return values

out	Constructed output of the model

Reimplemented in ModelGhost, ModelLaby, ModelPacman, ModelWalls, and StopCondition.

4.6.2.3 m()

```
virtual m (
            in obj,
            in nextState,
            in init )  [virtual]
```

Memory method update the state of the command.

Parameters

obj	The selected instance of the class
nextState	The value of the state need to update
init	Boolean condition for initialize or reset the command

Returns

instance of the class updated

Reimplemented in ModelGhost, ModelPacman, ModelLaby, ModelWalls, and StopCondition.

4.6.3 Member Data Documentation

4.6.3.1 initialState

`Property initialState`

This is the state of the command in the initialization and when it's reseted.

4.6.3.2 presentState

`Property presentState`

This is the state of the command in the present moment.

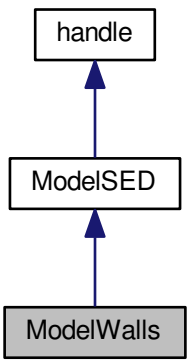
The documentation for this class was generated from the following file:

- ModelSED.m

4.7 ModelWalls Class Reference

This command do the sequence walls Right –> walls down
.

Inheritance diagram for ModelWalls:



Public Member Functions

- function ModelWalls (in initValue)

  Class constructor.
- function f (in obj)

  Compute the evolution of the command.
- function m (in obj, in nextState, in init)

  Memory method update the state of the command.
- function g (in obj)

  Create the outputs.
- virtual f (in obj, in in)

  Compute the evolution of the model.

Public Attributes

- Property presentState

  This is the state of the command in the present moment.
- Property initialState

  This is the state of the command in the initialization and when it's reseted.
- Property i
- Property val

4.7.1 Detailed Description

This command do the sequence walls Right –> walls down
.

4.7.2 Constructor & Destructor Documentation

4.7.2.1 ModelWalls()

```
function ModelWalls (
            in initValue )
```

Class constructor.

Parameters

initialValue	Contain the initial state

Returns

instance of the ModelWalls class.

4.7.3 Member Function Documentation

4.7.3.1 f() [1/2]

```
virtual f (
            in obj,
            in in )  [virtual], [inherited]
```

Compute the evolution of the model.

Parameters

obj	The instance who evolute
in	Input needed for the computing

Return values

nextState	The future state of the model

Reimplemented in ModelPacman, and ModelLaby.

4.7.3.2 f() [2/2]

```
function f (
            in obj )
```

Compute the evolution of the command.

Parameters

obj	The instance who evolute
in	Input needed for the compute

Return values

nextState	The future state of the walls command

4.7.3.3 g()

```
function g (
            in obj )  [virtual]
```

Create the outputs.

Parameters

obj	the concerned instance of the class

Return values

out	The output who is the command.

Reimplemented from ModelSED.

4.7.3.4 m()

```
function m (
            in obj,
            in nextState,
            in init )  [virtual]
```

Memory method update the state of the command.

Parameters

obj	The selected instance of the class
nextState	The value of the state need to update
init	Boolean condition for initialize or reset the command

Returns

instance of the class updated

Reimplemented from ModelSED.

4.7.4 Member Data Documentation

4.7.4.1 i

```
Property i
```

4.7.4.2 initialState

```
Property initialState
```

This is the state of the command in the initialization and when it's reseted.

4.7.4.3 presentState

`Property presentState`

This is the state of the command in the present moment.

4.7.4.4 val

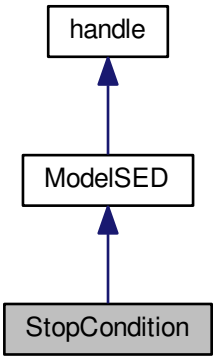
`Property val`

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

- ModelWalls.m

4.8 StopCondition Class Reference

Inheritance diagram for StopCondition:



Public Member Functions

- function StopCondition (in initCondition)
- function f (in obj, in noEscape, in caught, in pacmanWallsBreak, in ghostWallsBreak)
- function m (in obj, in nextState, in init)

  Memory method update the state of the command.
- function g (in obj)

  Create the outputs.
- virtual f (in obj, in in)

  Compute the evolution of the model.

Public Attributes

- Property presentState
- Property initialState

4.8.1 Constructor & Destructor Documentation

4.8.1.1 StopCondition()

```
function StopCondition (
            in initCondition )
```

4.8.2 Member Function Documentation

4.8.2.1 f() [1/2]

```
function f (
            in obj,
            in noEscape,
            in caught,
            in pacmanWallsBreak,
            in ghostWallsBreak )
```

4.8.2.2 f() [2/2]

```
virtual f (
            in obj,
            in in )  [virtual], [inherited]
```

Compute the evolution of the model.

Parameters

obj	The instance who evolute
in	Input needed for the computing

Return values

nextState	The future state of the model

Reimplemented in ModelPacman, and ModelLaby.

4.8.2.3 g()

```
function g (
            in obj )  [virtual]
```

Create the outputs.

Parameters

obj	the concerned instance of the class

Return values

out	Constructed output of the model

Reimplemented from ModelSED.

4.8.2.4 m()

```
function m (
            in obj,
            in nextState,
            in init )  [virtual]
```

Memory method update the state of the command.

Parameters

obj	The selected instance of the class
nextState	The value of the state need to update
init	Boolean condition for initialize or reset the command

Returns

instance of the class updated

Reimplemented from ModelSED.

4.8.3 Member Data Documentation

4.8.3.1 initialState

```
Property initialState
```

4.8.3.2 presentState

```
Property presentState
```

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

- StopCondition.m

4.9 Wrapper Class Reference

Public Member Functions

- function Wrapper (in inSize, in outSize, in initLaby, in initWalls, in initPac, in initGhost, in initStop)
- function updateConnexion (in obj, in indBit, in value)
- function init (in obj)
- function orderer (in obj, in vectIn)
- function get_stop (in obj)
- function get_out (in obj)

Public Attributes

- Property wallsBit
- Property pacmanBit
- Property ghostBit
- Property modelLaby
- Property commandWalls
- Property commandGhost
- Property commandPacman
- Property stopCondition
- Property in
- Property out
- Property stop
- Property whoPlay

4.9.1 Constructor & Destructor Documentation

4.9.1.1 Wrapper()

```
function Wrapper (
            in inSize,
            in outSize,
            in initLaby,
            in initWalls,
            in initPac,
            in initGhost,
            in initStop )
```

4.9.2 Member Function Documentation

4.9.2.1 get_out()

```
function get_out (
            in obj )
```

4.9.2.2 get_stop()

```
function get_stop (
            in obj )
```

4.9.2.3 init()

```
function init (
            in obj )
```

4.9.2.4 orderer()

```
function orderer (
            in obj,
            in vectIn )
```

4.9.2.5 updateConnexion()

```
function updateConnexion (
            in obj,
            in indBit,
            in value )
```

4.9.3 Member Data Documentation

4.9.3.1 commandGhost

Property commandGhost

4.9.3.2 commandPacman

Property commandPacman

4.9.3.3 commandWalls

Property commandWalls

4.9.3.4 ghostBit

Property ghostBit

4.9.3.5 in

Property in

4.9.3.6 modelLaby

Property modelLaby

4.9.3.7 out

Property out

4.9.3.8 pacmanBit

```
Property pacmanBit
```

4.9.3.9 stop

```
Property stop
```

4.9.3.10 stopCondition

```
Property stopCondition
```

4.9.3.11 wallsBit

```
Property wallsBit
```

4.9.3.12 whoPlay

```
Property whoPlay
```

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

- Wrapper.m

Chapter 5

File Documentation

5.1 CreatePituresAndVideo.m File Reference

Functions

- function CreatePituresAndVideo (in n, in escape_i, in labyState)

5.1.1 Function Documentation

5.1.1.1 CreatePituresAndVideo()

```
function CreatePituresAndVideo (
            in n,
            in escape_i,
            in labyState )
```

5.2 CreatePituresAndVideo_textured.m File Reference

Functions

- function CreatePituresAndVideo_textured (in n, in escape_i, in labyState)

5.2.1 Function Documentation

5.2.1.1 CreatePituresAndVideo_textured()

```
function CreatePituresAndVideo_textured (
            in n,
            in escape_i,
            in labyState )
```

5.3 figure_Laby.m File Reference

Functions

- function figure_Laby (in varargin)
- function figure_Laby_OpeningFcn (in hObject, in eventdata, in handles, in varargin)
- function figure_Laby_OutputFcn (in hObject, in eventdata, in handles)
- function ui_Callback (in hObject, in eventdata, in handles)
- function connect_Callback (in hObject, in eventdata, in handles)
- function createUIPacman (in handles)
- function createUIGhost (in handles)
- function createUIWalls (in handles)
- function createUIEscape (in handles)
- function updateUI (in handles, in out)
- function updateUIActiveCammand (in handles)
- function updateUIButton (in handles)
- function updateUIPlayer (in handles, in strPlayer, in position)
- function updateUICaught (in elementToSet, in caughtInt, in stp)
- function updateUIEscape (in elementToSet, in boolState)
- function updateUIWallsAround (in handles, in strElement, in wallsAround)
- function updateUIWalls (in wallsUI, in vertWalls, in horizWalls)
- function isOne (in boolCond)
- function updatePresenceDetectorDisplay (in elementToSet, in boolCondition)
- function resetUIConnection (in handles)

5.3.1 Function Documentation

5.3.1.1 connect_Callback()

```
function connect_Callback (
            in hObject,
            in eventdata,
            in handles )
```

5.3.1.2 createUIEscape()

```
function createUIEscape (
            in handles )
```

5.3.1.3 createUIGhost()

```
function createUIGhost (
             in handles )
```

5.3.1.4 createUIPacman()

```
function createUIPacman (
             in handles )
```

5.3.1.5 createUIWalls()

```
function createUIWalls (
             in handles )
```

5.3.1.6 figure_Laby()

```
function figure_Laby (
             in varargin )
```

5.3.1.7 figure_Laby_OpeningFcn()

```
function figure_Laby_OpeningFcn (
             in hObject,
             in eventdata,
             in handles,
             in varargin )
```

5.3.1.8 figure_Laby_OutputFcn()

```
function figure_Laby_OutputFcn (
             in hObject,
             in eventdata,
             in handles )
```

5.3.1.9 isOne()

```
function isOne (
             in boolCond )
```

5.3.1.10 resetUIConnection()

```
function resetUIConnection (
             in handles )
```

5.3.1.11 ui_Callback()

```
function ui_Callback (
             in hObject,
             in eventdata,
             in handles )
```

5.3.1.12 updatePresenceDetectorDisplay()

```
function updatePresenceDetectorDisplay (
             in elementToSet,
             in boolCondition )
```

5.3.1.13 updateUI()

```
function updateUI (
             in handles,
             in out )
```

5.3.1.14 updateUIActiveCammand()

```
function updateUIActiveCammand (
             in handles )
```

5.3.1.15 updateUIButton()

```
function updateUIButton (
             in handles )
```

5.3.1.16 updateUICaught()

```
function updateUICaught (
             in elementToSet,
             in caughtInt,
             in stp )
```

5.3.1.17 updateUIEscape()

```
function updateUIEscape (
             in elementToSet,
             in boolState )
```

5.3.1.18 updateUIPlayer()

```
function updateUIPlayer (
             in handles,
             in strPlayer,
             in position )
```

5.3.1.19 updateUIWalls()

```
function updateUIWalls (
             in wallsUI,
             in vertWalls,
             in horizWalls )
```

5.3.1.20 updateUIWallsAround()

```
function updateUIWallsAround (
             in handles,
             in strElement,
             in wallsAround )
```

5.4 LabyMenu.m File Reference

Functions

- function LabyMenu (in varargin)
- function LabyMenu_OpeningFcn (in hObject, in eventdata, in handles, in varargin)
- function LabyMenu_OutputFcn (in hObject, in eventdata, in handles)
- function OneEasy_Callback (in hObject, in eventdata, in handles)
- function TwoHard_Callback (in hObject, in eventdata, in handles)
- function TwoMedium_Callback (in hObject, in eventdata, in handles)
- function TwoEasy_Callback (in hObject, in eventdata, in handles)
- function OneMedium_Callback (in hObject, in eventdata, in handles)
- function OneHard_Callback (in hObject, in eventdata, in handles)
- function slider1_Callback (in hObject, in eventdata, in handles)
- function slider1_CreateFcn (in hObject, in eventdata, in handles)

5.4.1 Function Documentation

5.4.1.1 LabyMenu()

```
function LabyMenu (
             in varargin )
```

5.4.1.2 LabyMenu_OpeningFcn()

```
function LabyMenu_OpeningFcn (
             in hObject,
             in eventdata,
             in handles,
             in varargin )
```

5.4.1.3 LabyMenu_OutputFcn()

```
function LabyMenu_OutputFcn (
             in hObject,
             in eventdata,
             in handles )
```

5.4.1.4 OneEasy_Callback()

```
function OneEasy_Callback (
             in hObject,
             in eventdata,
             in handles )
```

5.4.1.5 OneHard_Callback()

```
function OneHard_Callback (
             in hObject,
             in eventdata,
             in handles )
```

5.4.1.6 OneMedium_Callback()

```
function OneMedium_Callback (
             in hObject,
             in eventdata,
             in handles )
```

5.4.1.7 slider1_Callback()

```
function slider1_Callback (
             in hObject,
             in eventdata,
             in handles )
```

5.4.1.8 slider1_CreateFcn()

```
function slider1_CreateFcn (
             in hObject,
             in eventdata,
             in handles )
```

5.4.1.9 TwoEasy_Callback()

```
function TwoEasy_Callback (
             in hObject,
             in eventdata,
             in handles )
```

5.4.1.10 TwoHard_Callback()

```
function TwoHard_Callback (
             in hObject,
             in eventdata,
             in handles )
```

5.4.1.11 TwoMedium_Callback()

```
function TwoMedium_Callback (
             in hObject,
             in eventdata,
             in handles )
```

5.5 main.m File Reference

5.6 matrixAllPossible.m File Reference

5.7 ModelCommand.m File Reference

Classes

- class ModelCommand

5.8 ModelGenerator/AutomatonSchedulingCreation.m File Reference

Functions

- function ()

5.8.1 Function Documentation

5.8.1.1 function()

```
function ( )
```

5.9 ModelGenerator/AutomatonStrutureLabyCreation.m File Reference

Functions

- function AutomatonStrutureLabyCreation (in labySize, in playerPosition, in escapePosition, in playerName)

5.9.1 Function Documentation

5.9.1.1 AutomatonStrutureLabyCreation()

```
function AutomatonStrutureLabyCreation (
            in labySize,
            in playerPosition,
            in escapePosition,
            in playerName )
```

5.10 ModelGenerator/AutomatonWallsContraintsCreation.m File Reference

Functions

- function AutomatonWallsContraintsCreation (in verticalsWalls, in horizontalsWalls, in FirstWallsMove)

5.10.1 Function Documentation

5.10.1.1 AutomatonWallsContraintsCreation()

```
function AutomatonWallsContraintsCreation (
            in verticalsWalls,
            in horizontalsWalls,
            in FirstWallsMove )
```

5.11 ModelGenerator/generer_lab.m File Reference

Functions

- function generer_lab (in Matrice_Horizontale, in Matrice_Verticale)

5.11.1 Function Documentation

5.11.1.1 generer_lab()

```
function generer_lab (
            in Matrice_Horizontale,
            in Matrice_Verticale )
```

5.12 ModelGenerator/modelGenerator.m File Reference

5.13 ModelGenerator/Plan_desumaFunctions_2Players.m File Reference

Functions

- function writeStates (in prefix, in nbrOfStates, in initialIndice, in markedStatesIndices)
- function writeTransitions (in prefix, in datas)
- function SaveDESUMAFile (in transitionsString, in statesString, in fileName)
- function AutomatonStrutureLabyCreation (in labySize, in playerPosition, in escapePosition, in playerName)
- function ()

5.13.1 Function Documentation

5.13.1.1 AutomatonStrutureLabyCreation()

```
function AutomatonStrutureLabyCreation (
            in labySize,
            in playerPosition,
            in escapePosition,
            in playerName )
```

5.13.1.2 function()

```
function ( )
```

5.13.1.3 SaveDESUMAFile()

```
function SaveDESUMAFile (
            in transitionsString,
            in statesString,
            in fileName )
```

5.13.1.4 writeStates()

```
function writeStates (
            in prefix,
            in nbrOfStates,
            in initialIndice,
            in markedStatesIndices )
```

5.13.1.5 writeTransitions()

```
function writeTransitions (
            in prefix,
            in datas )
```

5.14 ModelGenerator/SaveDESUMAFile.m File Reference

Functions

- function SaveDESUMAFile (in transitionsString, in statesString, in fileName)

5.14.1 Function Documentation

5.14.1.1 SaveDESUMAFile()

```
function SaveDESUMAFile (
            in transitionsString,
            in statesString,
            in fileName )
```

5.15 ModelGenerator/writeStates.m File Reference

Functions

- function writeStates (in prefix, in nbrOfStates, in initialIndice, in markedStatesIndices)

5.15.1 Function Documentation

5.15.1.1 writeStates()

```
function writeStates (
            in prefix,
            in nbrOfStates,
            in initialIndice,
            in markedStatesIndices )
```

5.16 ModelGenerator/writeTransitions.m File Reference

Functions

- function writeTransitions (in prefix, in datas)

5.16.1 Function Documentation

5.16.1.1 writeTransitions()

```
function writeTransitions (
            in prefix,
            in datas )
```

5.17 ModelGhost.m File Reference

Classes

- class ModelGhost

  MODELGhost Summary of this class goes here
  Input : Possible ghost's moves [Up Down Left Right]
  0 = move not possible ; 1 = move possible
  (Wout{7})

  Output : Ghost's moves 1 : ghostLeftBut, (Wout(3))
  2 : ghostUpBut, (Wout(1))
  3 : ghostRightBut, (Wout(4))
  4 : ghostDownBut , (Wout(2))
  (Win(4:7) of wrapper)

  in: Walls around ghost
  1 up
  2 down
  .

5.18 ModelLaby.m File Reference

Classes

- class ModelLaby

  Class which contains the "fmg" structure of the labyrinth for 2 players

5.19 ModelPacman.m File Reference

Command of the Pacman's moves Input : Possible Pacman's moves [Up Down Left Right]
0 = move not possible ; 1 = move possible
(Wout{7})

Output : Pacman's moves 1 : pacmanLeftBut, (Wout(3))
2 : pacmanUpBut, (Wout(1))
3 : pacmanRightBut, (Wout(4))
4 : pacmanDownBut , (Wout(2))
(Win(4:7) of wrapper)

Classes

- class ModelPacman

  Input : Walls around Pacman
  1 up
  2 down
  3 left
  4 right
  This command do the sequence P(D) > P(B) > P(H) > P(G)
  .

5.19.1 Detailed Description

Command of the Pacman's moves Input : Possible Pacman's moves [Up Down Left Right]
0 = move not possible ; 1 = move possible
(Wout{7})

Output : Pacman's moves 1 : pacmanLeftBut, (Wout(3))
2 : pacmanUpBut, (Wout(1))
3 : pacmanRightBut, (Wout(4))
4 : pacmanDownBut , (Wout(2))
(Win(4:7) of wrapper)

5.20 ModelSED.m File Reference

abstract Class who contain the structure of a "fmg" implementation Input : necessary information for compute the next state of the model

Classes

- class ModelSED

  State : minimal information necessary who evolute.

5.20.1 Detailed Description

abstract Class who contain the structure of a "fmg" implementation Input : necessary information for compute the next state of the model

Output : output's action of the model

5.21 ModelWalls.m File Reference

Command of the walls' move Input : No need
Output : [UPwalls , RIGHTwalls]

Classes

- class ModelWalls

  This command do the sequence walls Right –> walls down
  .

5.21.1 Detailed Description

Command of the walls' move Input : No need
Output : [UPwalls , RIGHTwalls]

5.22 setColor.m File Reference

Functions

- function setColor (in img, in imgRef, in colors, in indice)

5.22.1 Function Documentation

5.22.1.1 setColor()

```
function setColor (
            in img,
            in imgRef,
            in colors,
            in indice )
```

5.23 Simulation.m File Reference

5.24 Simulation2_allpossiblewalls.m File Reference

5.25 StopCondition.m File Reference

Classes

- class StopCondition

5.26 validation/Validation 2/Test1/validation2.m File Reference

5.27 validation/Validation 2/Test10/validation2.m File Reference

5.28 validation/Validation 2/Test11/validation2.m File Reference

5.29 validation/Validation 2/Test12/validation2.m File Reference

5.30 validation/Validation 2/Test13/validation2.m File Reference

5.31 validation/Validation 2/Test14/validation2.m File Reference

5.32 validation/Validation 2/Test15/validation2.m File Reference

5.33 validation/Validation 2/Test16/validation2.m File Reference

5.34 validation/Validation 2/Test17/validation2.m File Reference

5.35 validation/Validation 2/Test2/validation2.m File Reference

5.36 validation/Validation 2/Test3/validation2.m File Reference

5.37 validation/Validation 2/Test4/validation2.m File Reference

5.38 validation/Validation 2/Test5/validation2.m File Reference

5.39 validation/Validation 2/Test6/validation2.m File Reference

5.40 validation/Validation 2/Test7/validation2.m File Reference

5.41 validation/Validation 2/Test8/validation2.m File Reference

5.42 validation/Validation 2/Test9/validation2.m File Reference

5.43 validation/Validation 3/Test1/verification3.m File Reference

5.44 validation/Validation 3/verification3.m File Reference

5.45 validation/Validation 4/test.m File Reference

5.46 validation/Validation 4/Test1/test.m File Reference

5.47 validation/Validation 4/Test1/validation4.m File Reference

5.48 validation/Validation 4/validation4.m File Reference

5.49 validation/Validation 7/validation7.m File Reference

5.50 validation/Validation 8/Test1/validation8.m File Reference

5.51 visupacman.m File Reference

5.52 visupacman2.m File Reference

5.53 wallsBorder.m File Reference

Functions

- function wallsBorder (in walls)

5.53.1 Function Documentation

5.53.1.1 wallsBorder()

```
function wallsBorder (
             in walls )
```

5.54 Wrapper.m File Reference

Classes

- class Wrapper

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