Labyrinth - One Player mode

Generated by Doxygen 1.8.13

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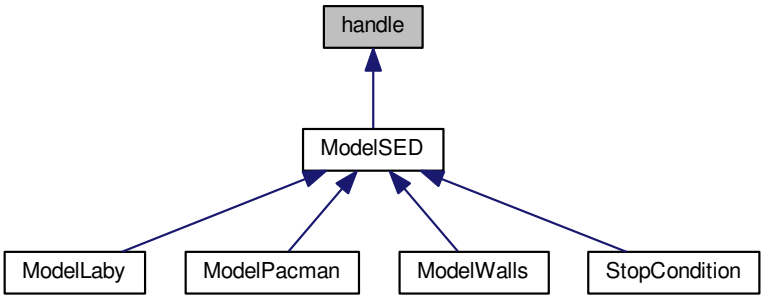
Class Documentation

4.1 handle Class Reference

Inheritance diagram for handle:



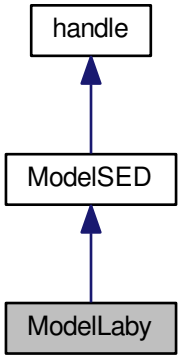
The documentation for this class was generated from the following file:

- ModelSED.m

4.2 ModelLaby Class Reference

Class which contains the "fmg" structure of the labyrinth for 1 player

Inheritance diagram for ModelLaby:



Public Member Functions

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

  Class constructor of Instance of ModelLaby Class.
- 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.

Public Attributes

- Property presentState

  Data Structure of the current 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.
- 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.

4.2.1 Detailed Description

Class which contains the "fmg" structure of the labyrinth for 1 player

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

Output : output's action of the model

State : minimal information necessary who evolute

4.2.2 Constructor & Destructor Documentation

4.2.2.1 ModelLaby()

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

Class constructor of Instance of ModelLaby Class.

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.
escape_init	Contain a vector (x, y) of Escape 's Position.

Returns

instance of the ModelLaby class.

4.2.3 Member Function Documentation

4.2.3.1 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.

Returns

Next instance of the ModelLaby class.

Reimplemented from ModelSED.

4.2.3.2 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.

4.2.3.3 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.

4.2.4 Member Data Documentation

4.2.4.1 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.

4.2.4.2 presentState

`Property presentState`

Data Structure of the current 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.

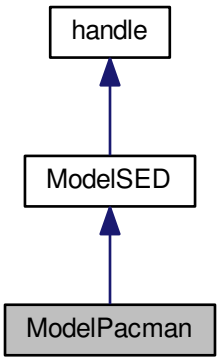
The documentation for this class was generated from the following file:

- ModelLaby.m

4.3 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.

4.3.1 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)
.

4.3.2 Constructor & Destructor Documentation

4.3.2.1 ModelPacman()

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

Class constructor.

Parameters

initialValue	Contain the initial state

Returns

instance of the ModelPacman class.

4.3.3 Member Function Documentation

4.3.3.1 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.

4.3.3.2 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.

4.3.3.3 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.

4.3.4 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.

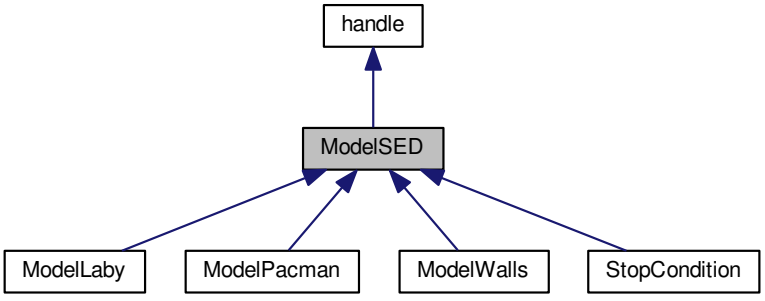
The documentation for this class was generated from the following file:

- ModelPacman.m

4.4 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.

4.4.1 Detailed Description

State : minimal information necessary who evolute.

4.4.2 Member Function Documentation

4.4.2.1 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.

4.4.2.2 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 ModelPacman, ModelLaby, ModelWalls, and StopCondition.

4.4.2.3 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 ModelPacman, ModelLaby, ModelWalls, and StopCondition.

4.4.3 Member Data Documentation

4.4.3.1 initialState

```
Property initialState
```

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

4.4.3.2 presentState

`Property presentState`

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

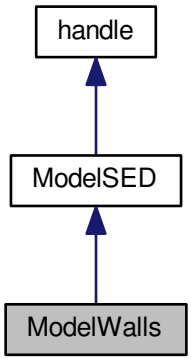
The documentation for this class was generated from the following file:

- ModelSED.m

4.5 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)
- 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
- Property i
- Property val

4.5.1 Detailed Description

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

4.5.2 Constructor & Destructor Documentation

4.5.2.1 ModelWalls()

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

Class constructor.

Parameters

initialValue	Contain the initial state

Returns

instance of the ModelWalls class.

4.5.3 Member Function Documentation

4.5.3.1 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.

4.5.3.2 f() [2/2]

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

4.5.3.3 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.

4.5.3.4 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.

4.5.4 Member Data Documentation

4.5.4.1 i

```
Property i
```

4.5.4.2 initialState

```
Property initialState
```

4.5.4.3 presentState

```
Property presentState
```

4.5.4.4 val

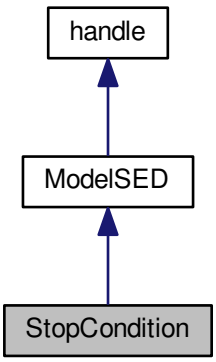
```
Property val
```

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

- ModelWalls.m

4.6 StopCondition Class Reference

Inheritance diagram for StopCondition:



Public Member Functions

- function StopCondition (in initCondition)
- function f (in obj, in noEscape, in pacmanWallsBreak)
- 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

4.6.1 Constructor & Destructor Documentation

4.6.1.1 StopCondition()

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

4.6.2 Member Function Documentation

4.6.2.1 f() [1/2]

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

4.6.2.2 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.

4.6.2.3 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.

4.6.2.4 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.

4.6.3 Member Data Documentation

4.6.3.1 initialState

```
Property initialState
```

4.6.3.2 presentState

```
Property presentState
```

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

- StopCondition.m

4.7 Wrapper Class Reference

Public Member Functions

- function Wrapper (in inSize, in outSize, in initLaby, in initWalls, in initPac, 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 modelLaby
- Property commandWalls
- Property commandPacman
- Property stopCondition
- Property in
- Property out
- Property stop
- Property whoPlay

4.7.1 Constructor & Destructor Documentation

4.7.1.1 Wrapper()

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

4.7.2 Member Function Documentation

4.7.2.1 get_out()

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

4.7.2.2 get_stop()

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

4.7.2.3 init()

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

4.7.2.4 orderer()

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

4.7.2.5 updateConnexion()

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

4.7.3 Member Data Documentation

4.7.3.1 commandPacman

```
Property commandPacman
```

4.7.3.2 commandWalls

```
Property commandWalls
```

4.7.3.3 in

```
Property in
```

4.7.3.4 modelLaby

```
Property modelLaby
```

4.7.3.5 out

```
Property out
```

4.7.3.6 pacmanBit

```
Property pacmanBit
```

4.7.3.7 stop

```
Property stop
```

4.7.3.8 stopCondition

```
Property stopCondition
```

4.7.3.9 wallsBit

```
Property wallsBit
```

4.7.3.10 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 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 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 createUIPacman()

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

5.3.1.4 createUIWalls()

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

5.3.1.5 figure_Laby()

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

5.3.1.6 figure_Laby_OpeningFcn()

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

5.3.1.7 figure_Laby_OutputFcn()

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

5.3.1.8 isOne()

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

5.3.1.9 resetUIConnection()

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

5.3.1.10 ui_Callback()

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

5.3.1.11 updatePresenceDetectorDisplay()

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

5.3.1.12 updateUI()

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

5.3.1.13 updateUIActiveCammand()

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

5.3.1.14 updateUIButton()

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

5.3.1.15 updateUIEscape()

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

5.3.1.16 updateUIPlayer()

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

5.3.1.17 updateUIWalls()

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

5.3.1.18 updateUIWallsAround()

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

5.4 main.m File Reference

5.5 ModelLaby.m File Reference

Classes

- class ModelLaby

  Class which contains the "fmg" structure of the labyrinth for 1 player

5.6 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)
  .

5.6.1 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)

5.7 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.

5.7.1 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

5.8 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
  .

5.8.1 Detailed Description

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

5.9 setColor.m File Reference

Functions

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

5.9.1 Function Documentation

5.9.1.1 setColor()

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

5.10 Simulation.m File Reference

5.11 StopCondition.m File Reference

Classes

- class StopCondition

5.12 testUI.m File Reference

5.13 THEplan.m File Reference

5.14 visupacman.m File Reference

5.15 visupacman2.m File Reference

5.16 wallsBorder.m File Reference

Functions

- function wallsBorder (in walls)

5.16.1 Function Documentation

5.16.1.1 wallsBorder()

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

5.17 Wrapper.m File Reference

Classes

- class Wrapper

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