

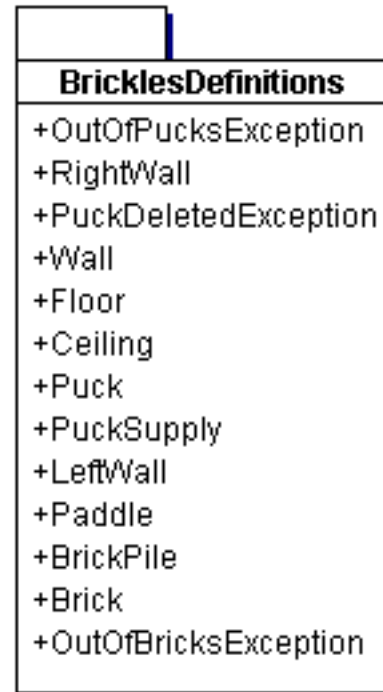
Package <default>

Class Diagram Summary

<default>

<default>

Class Diagram <default>



Package BricklesDefinitions

Class Diagram Summary	
BricklesDefinitions	

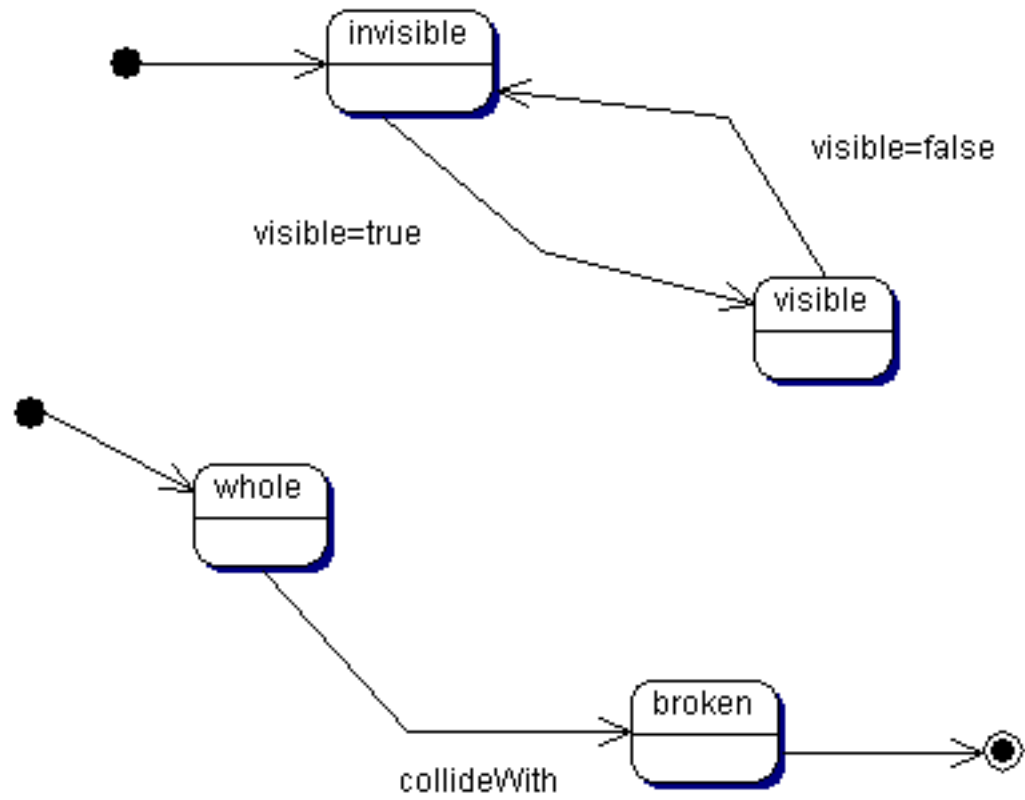
State Diagram Summary	
BrickState	

Class Summary	
Brick	Summary description for Puck.
BrickPile	Summary description for BrickPile.
Ceiling	Summary description for Ceiling.
Floor	Summary description for Floor.
LeftWall	Summary description for LeftWall.
OutOfBricksException	Summary description for OutOfBricksException.

Class Summary	
OutOfPucksException	Summary description for OutOfPucksException.
Paddle	Summary description for Paddle.
Puck	Summary description for Puck.
PuckDeletedException	Summary description for PuckDeletedException.
PuckSupply	Summary description for PuckSupply.
RightWall	Summary description for RightWall.
Wall	Summary description for Wall.

BricklesDefinitions

State Diagram BrickState



End State Summary

EndState1	
-----------	--

Start State Summary

StartState1	
StartState2	

State Summary

broken	
invisible	
visible	
whole	

Diagram Elements Detail

EndState1

backgroundColor 0,0,0

StartState1

backgroundColor 0,0,0

Transition Links

to **State** whole

StartState2

backgroundColor 0,0,0

Transition Links

to **State** invisible

broken

Transition Links

to **End State** EndState1

invisible

Transition Links

to **State** visible

Event visible=true

visible

Transition Links

to **State** invisible

Event visible=false

whole

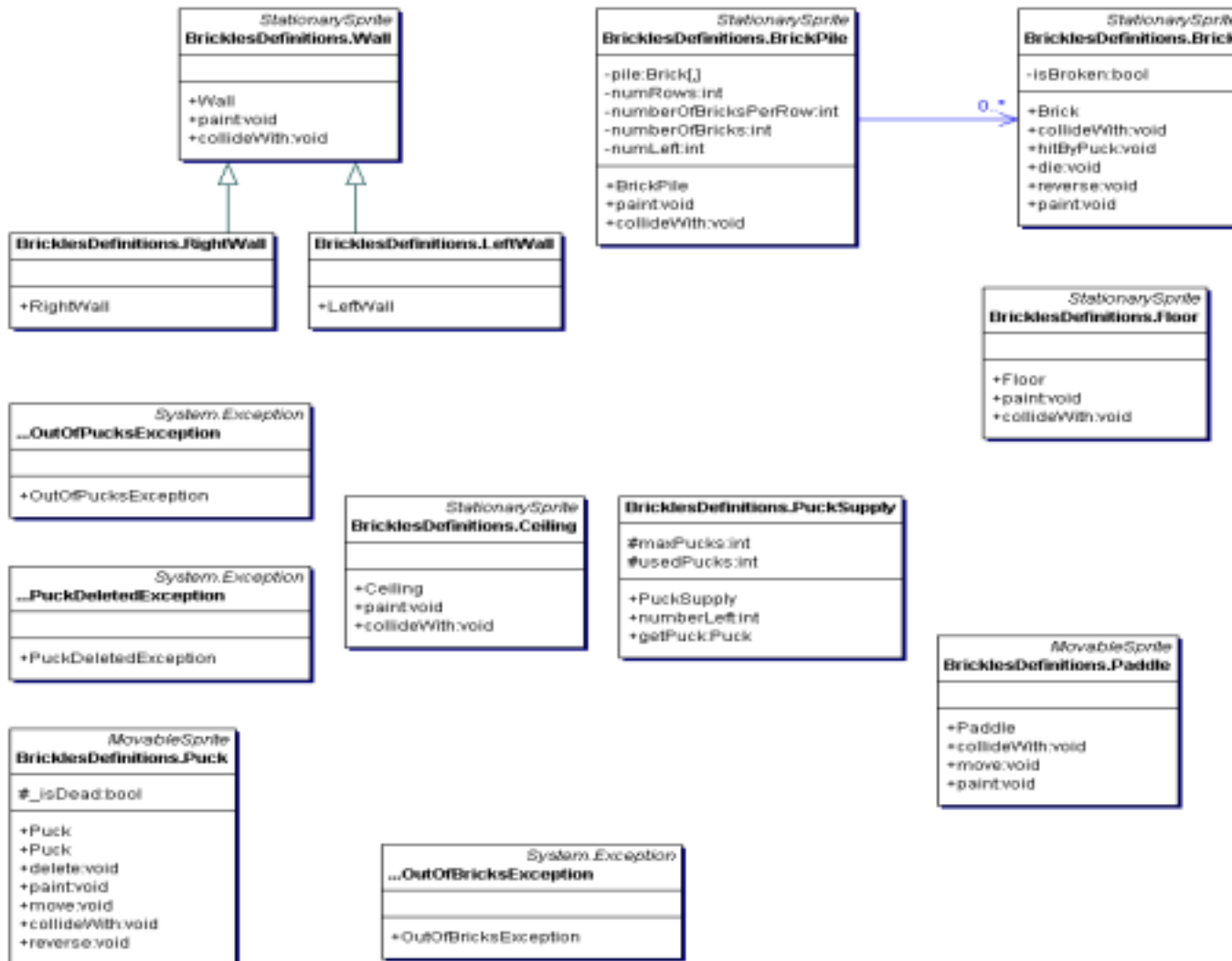
Transition Links

to **State** broken

Event collideWith

BricklesDefinitions

Class Diagram BricklesDefinitions



Class Summary	
Brick	Summary description for Puck.
BrickPile	Summary description for BrickPile.
Ceiling	Summary description for Ceiling.
Floor	Summary description for Floor.
LeftWall	Summary description for LeftWall.
OutOfBricksException	Summary description for OutOfBricksException.
OutOfPucksException	Summary description for OutOfPucksException.
Paddle	Summary description for Paddle.
Puck	Summary description for Puck.
PuckDeletedException	Summary description for PuckDeletedException.

Class Summary	
PuckSupply	Summary description for PuckSupply.
RightWall	Summary description for RightWall.
Wall	Summary description for Wall.

BricklesDefinitions

Class Brick

```
public class Brickimplements StationarySprite
```

Summary description for Puck.

summary

Summary description for Puck.

Constructor Summary

Brick(Point p, Size s)

Method Summary

void

collideWith (MovableSprite sprite)

void

die()

Method Summary

void	hitByPuck (Puck puck_p)
void	paint (PaintEventArgs e)
void	reverse ()

Constructor Detail

Brick

public **Brick**(Point p, Size s)

Method Detail

collideWith

public void **collideWith** (MovableSprite sprite)

die

public void **die**()

hitByPuck

public void **hitByPuck**(Puck puck_p)

paint

public void **paint**(PaintEventArgs e)

reverse

public void **reverse**()

BricklesDefinitions

Class BrickPile

```
public class BrickPile implements StationarySprite
```

Summary description for BrickPile.

summary

Summary description for BrickPile.

Constructor Summary

BrickPile (Point p, Size s)

Method Summary

void

collideWith (MovableSprite ms)

void

paint(PaintEventArgs e)

Constructor Detail

BrickPile

public **BrickPile** (Point p, Size s)

Method Detail

collideWith

public void **collideWith** (MovableSprite ms)

Preconditions pile != null

Postconditions forAll Brick in pile collideWith(ms)

paint

public void **paint**(PaintEventArgs e)

Association Links

to **Class** [BricklesDefinitions.Brick](#)

BricklesDefinitions

Class Ceiling

```
public class Ceiling implements StationarySprite
```

Summary description for Ceiling.

summary

Summary description for Ceiling.

Constructor Summary

Ceiling (Point p, Size s)

Method Summary

void

collideWith (MovableSprite m)

void

paint(PaintEventArgs e)

Constructor Detail

Ceiling

public **Ceiling** (Point p, Size s)

Method Detail

collideWith

public void **collideWith** (MovableSprite m)

paint

public void **paint**(PaintEventArgs e)

BricklesDefinitions

Class Floor

```
public class Floor implements StationarySprite
```

Summary description for Floor.

summary

Summary description for Floor.

Constructor Summary

Floor(Point p, Size s)

Method Summary

void

collideWith (MovableSprite m)

void

paint(PaintEventArgs e)

Constructor Detail

Floor

public **Floor**(Point p, Size s)

Method Detail

collideWith

public void **collideWith** (MovableSprite m)

paint

public void **paint**(PaintEventArgs e)

BricklesDefinitions

Class LeftWall

public class LeftWall implements Wall

Summary description for LeftWall.

summary

Summary description for LeftWall.

Constructor Summary

LeftWall(Point p, Size s)

Constructor Detail

LeftWall

public **LeftWall**(Point p, Size s)

BricklesDefinitions

Class OutOfBricksException

```
public class OutOfBricksException implements System.Exception
```

Summary description for OutOfBricksException.

summary

Summary description for OutOfBricksException.

Constructor Summary

OutOfBricksException ()

Constructor Detail

OutOfBricksException

```
public OutOfBricksException ()
```

BricklesDefinitions

Class OutOfPucksException

```
public class OutOfPucksException implements System.Exception
```

Summary description for OutOfPucksException.

summary

Summary description for OutOfPucksException.

Constructor Summary

OutOfPucksException ()

Constructor Detail

OutOfPucksException

```
public OutOfPucksException ()
```

BricklesDefinitions

Class Paddle

public class Paddle implements MovableSprite

Summary description for Paddle.

summary

Summary description for Paddle.

Constructor Summary

Paddle(Point p, Size s)

Method Summary

void

collideWith (MovableSprite m)

void

move()

Method Summary

void	paint (PaintEventArgs e)
------	---------------------------------

Constructor Detail

Paddle

public **Paddle**(Point p, Size s)

Method Detail

collideWith

public void **collideWith** (MovableSprite m)

move

public void **move**()

paint

```
public void paint(PaintEventArgs e)
```

BricklesDefinitions

Class Puck

```
public class Puck implements MovableSprite
```

Summary description for Puck.

summary

Summary description for Puck.

Constructor Summary

Puck(Point p, Size s)

Puck()

Method Summary

void

collideWith (MovableSprite m)

Method Summary

void	delete ()
void	move()
void	paint (PaintEventArgs e)
void	reverse ()

Constructor Detail

Puck

public **Puck**(Point p, Size s)

Puck

public **Puck**()

Method Detail

collideWith

public void **collideWith** (MovableSprite m)

delete

public void **delete** ()

move

public void **move**()

paint

public void **paint**(PaintEventArgs e)

reverse

public void **reverse** ()

BricklesDefinitions

Class PuckDeletedException

```
public class PuckDeletedException implements System.Exception
```

Summary description for PuckDeletedException.

summary

Summary description for PuckDeletedException.

Constructor Summary

PuckDeletedException ()

Constructor Detail

PuckDeletedException

```
public PuckDeletedException ()
```

BricklesDefinitions

Class PuckSupply

```
public class PuckSupply
```

Summary description for PuckSupply.

summary

Summary description for PuckSupply.

Constructor Summary

PuckSupply()

Method Summary

Puck

getPuck()

int

numberLeft()

Constructor Detail

PuckSupply

public **PuckSupply**()

Method Detail

getPuck

public Puck **getPuck**()

numberLeft

public int **numberLeft**()

BricklesDefinitions

Class RightWall

public class RightWall implements Wall

Summary description for RightWall.

summary

Summary description for RightWall.

Constructor Summary

RightWall(Point p, Size s)

Constructor Detail

RightWall

public **RightWall**(Point p, Size s)

BricklesDefinitions

Class Wall

Direct Known Subclasses:LeftWall, RightWall

```
public class Wallimplements StationarySprite
```

Summary description for Wall.

summary

Summary description for Wall.

Constructor Summary

Wall(Point p, Size s)

Method Summary

void

collideWith (MovableSprite m)

void

paint(PaintEventArgs e)

Constructor Detail

Wall

public **Wall**(Point p, Size s)

Method Detail

collideWith

public void **collideWith** (MovableSprite m)

paint

public void **paint**(PaintEventArgs e)

Package GameBoard

Class Diagram Summary	
GameBoard	

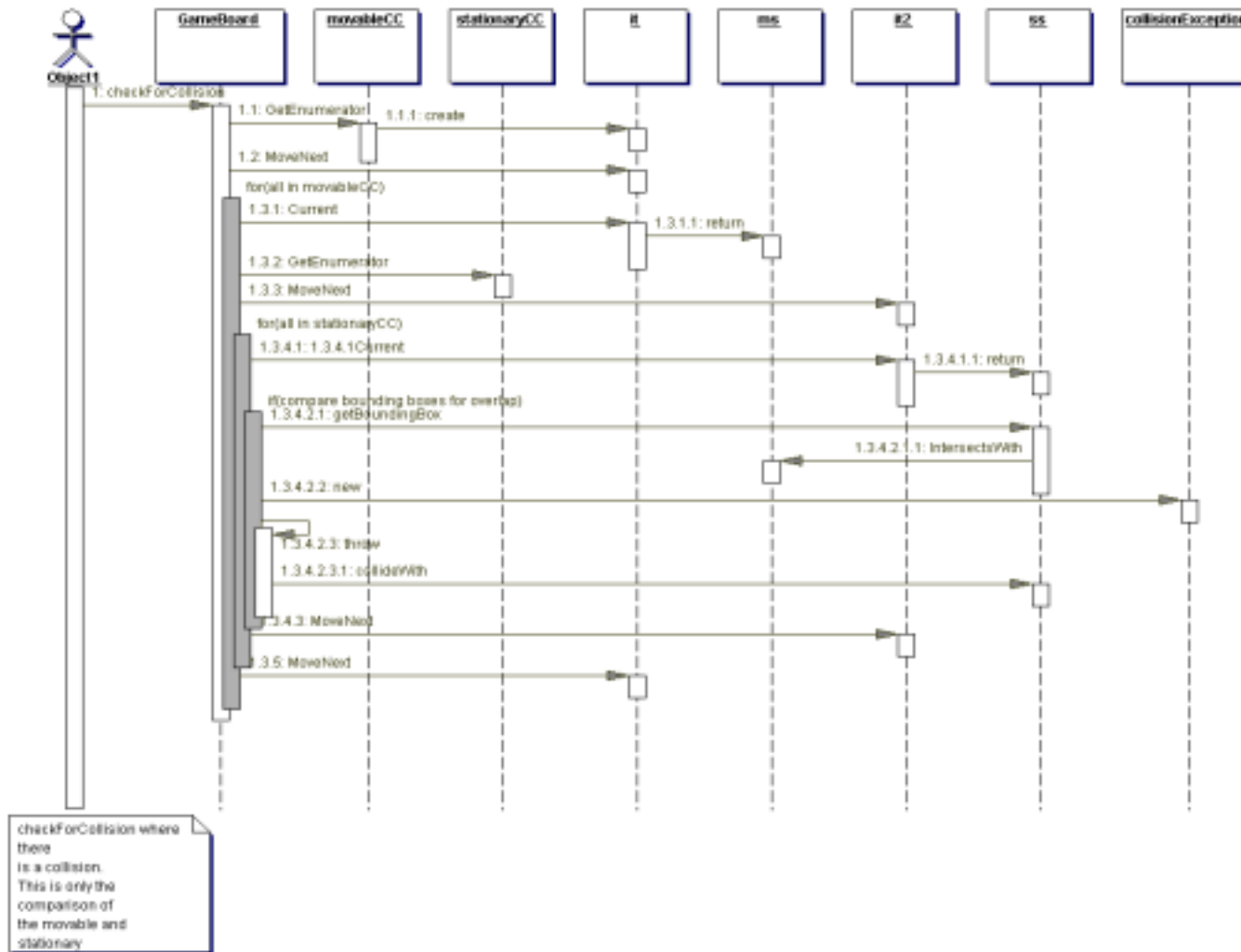
Sequence Diagram Summary	
checkForCollision	
checkforCollision2	
tick	

State Diagram Summary	
boardState	

Class Summary	
Board	Summary description for Board.
CollisionException	Summary description for CollisionException.

GameBoard

Sequence Diagram checkForCollision



Note Summary

Note1	
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Object Summary

collisionException	
GameBoard	
it	
it2	
movableCC	
ms	
Object1	
ss	
stationaryCC	

Diagram Elements Detail

Note1

text checkForCollision where there is a collision.

This is only the comparison of

the movable and stationary
objects.

collisionException

Activation Summary	
Activation13	

Activation13

GameBoard

Activation Summary	
Activation1	
Activation14	

StatementBlock Summary	
StatementBlock1	
StatementBlock2	

StatementBlock Summary

StatementBlock3	
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Message Links

to **Object** movableCC

Name GetEnumerator

Number 1.1

diagram_unique_name <oref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oref>

to **Object** it

Name MoveNext

Number 1.2

diagram_unique_name <oref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oref>

to **Object** it

Name Current

Number 1.3.1

diagram_unique_name <oref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oref>

to **Object** stationaryCC

Name GetEnumerator

Number 1.3.2

diagram_unique_name <oref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oref>

to **Object** it2

Name MoveNext

Number 1.3.3

diagram_unique_name <oref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oref>

to **Object** it2

Name 1.3.4.1Current

Number 1.3.4.1

diagram_unique_name <oref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oref>

to **Object** ss

Name getBoundingBox

Number 1.3.4.2.1

diagram_unique_name <oref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oref>

to **Object** collisionException

Name new

Number 1.3.4.2.2

diagram_unique_name <oref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oref>

to **Object** GameBoard

Name throw

Number 1.3.4.2.3

diagram_unique_name <oeref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oeref>

to **Object** ss

Name collideWith

Number 1.3.4.2.3.1

diagram_unique_name <oeref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oeref>

to **Object** it2

Name MoveNext

Number 1.3.4.3

diagram_unique_name <oeref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oeref>

to **Object** it

Name MoveNext

Number 1.3.5

diagram_unique_name <oeref:design#Class#idmtw1d7ao7sydd7asbqv.vu.diagram:oeref>

Activation1

Activation14

StatementBlock1

sequenceNumber 1.3
name StatementBlock1
statementExpression all in movableCC
statementType for
initialInstant 198
shapeType StatementBlock
diagram_unique_name <oeref:design#Class#idmtw1d7ao7sydd7asbqv. diagram:oeref>
processingDuration 457

StatementBlock2

name StatementBlock2
processingDuration 298
shapeType StatementBlock
statementExpression all in stationaryCC
diagram_unique_name <oeref:design#Class#idmtw1d7ao7sydd7asbqv. diagram:oeref>
initialInstant 320
statementType for
sequenceNumber 1.3.4
minProcessingDuration 273

StatementBlock3

sequenceNumber 1.3.4.2

name StatementBlock3

statementExpression compare bounding boxes for overlap

statementType if

initialInstant 389

shapeType StatementBlock

diagram_unique_name <oiref:design#Class#idmtw1d7ao7sydd7asbqv. diagram:oiref>

processingDuration 194

it

Activation Summary	
Activation17	
Activation3	
Activation4	
Activation5	

Message Links

to **Object** ms

Name return

Number 1.3.1.1

diagram_unique_name <oiref:design#Class#idmtw1d7ao7sydd7asbqvü.diagram:oiref>

Activation17

Activation3

Activation4

Activation5

it2

Activation Summary	
Activation16	
Activation8	
Activation9	

Message Links

to **Object** ss

Name return

Number 1.3.4.1.1

diagram_unique_name <oiref:design#Class#idmtw1d7ao7sydd7asbqv.u.diagram:oiref>

Activation16

Activation8

Activation9

movableCC

Activation Summary

Activation2	
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Message Links

to **Object** it

Name create

Number 1.1.1

diagram_unique_name <oiref:design#Class#idmtw1d7ao7sydd7asbqvü.diagram:oiref>

Activation2

ms

Activation Summary	
Activation12	
Activation6	

Activation12

Activation6

Object1

Stereotype actor

Message Links

to **Object** GameBoard

Name checkForCollision

Number 1

diagram_unique_name <oeref:design#Class#idmtw1d7ao7sydd7asbqvü.diagram:oeref>

ss

Activation Summary

Activation10	
Activation11	
Activation15	

Message Links

to **Object** ms

Name IntersectsWith

Number 1.3.4.2.1.1

diagram_unique_name <oeref:design#Class#idmtw1d7ao7sydd7asbqv. diagram:oeref>

Activation10

Activation11

Activation15

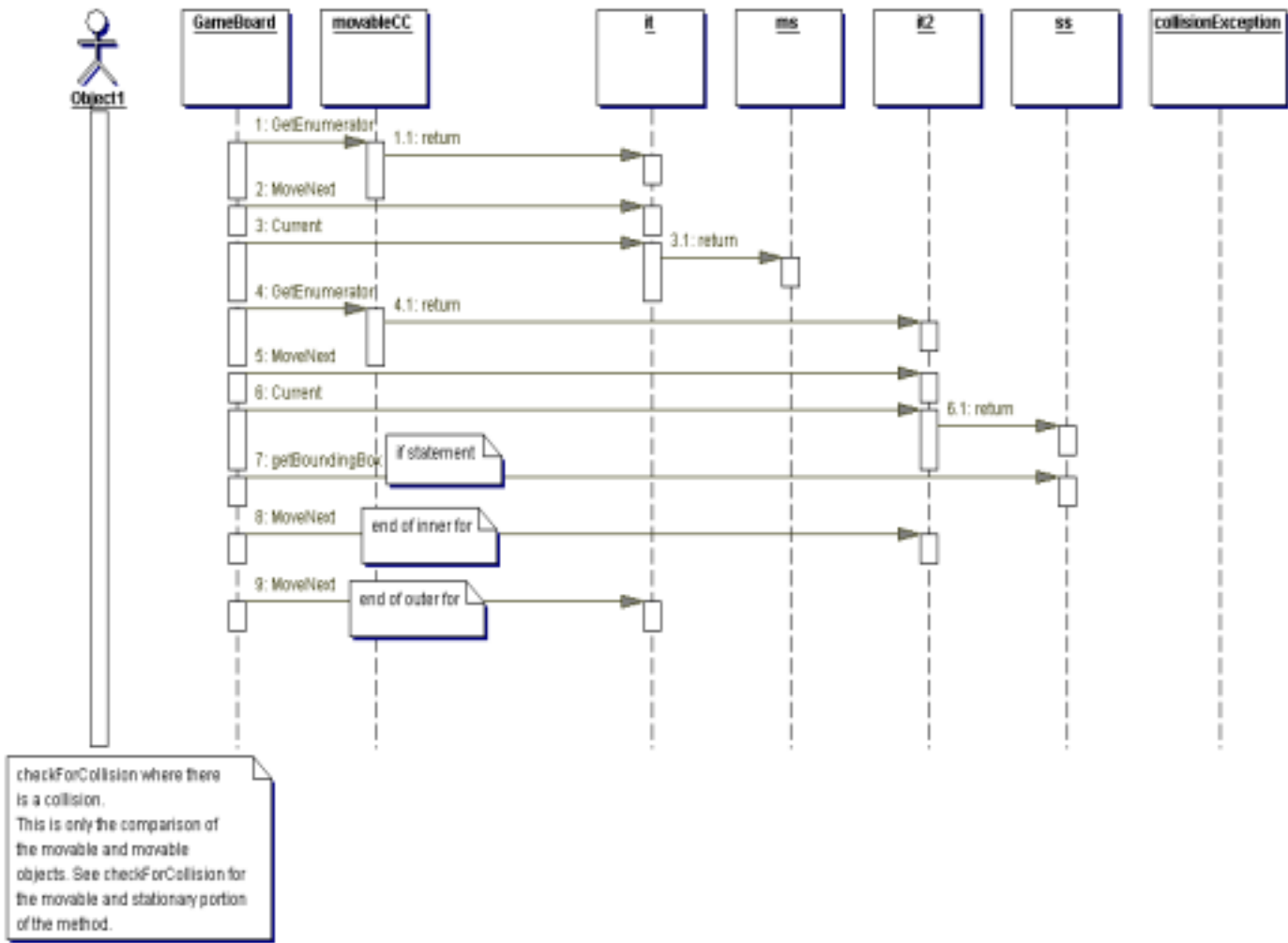
stationaryCC

Activation Summary	
Activation7	

Activation7

GameBoard

Sequence Diagram checkforCollision2



Note Summary

Note1

Note2

Note3

Note4

Object Summary

collisionException

GameBoard

it

it2

movableCC

ms

Object1

ss

Diagram Elements Detail

Note1

text checkForCollision where there is a collision.

This is only the comparison of the movable and movable objects. See checkForCollision for the movable and stationary portion of the method.

Note2

text if statement

Note3

text end of inner for

Note4

text end of outer for

collisionException

GameBoard

Message Links

to **Object** movableCC

Name GetEnumerator

Number 1

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

to **Object** it

Name MoveNext

Number 2

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

to **Object** it

Name Current

Number 3

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

to **Object** movableCC

Name GetEnumerator

Number 4

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

to **Object** it2

Name MoveNext

Number 5

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

to **Object** it2

Name Current

Number 6

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

to **Object** ss

Name getBoundingBox

Number 7

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

to **Object** it2

Name MoveNext

Number 8

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

to **Object** it

Name MoveNext

Number 9

diagram_unique_name <oeref:design#Class#id32faed7ao7sydd7axoad2.diagram:oeref>

it

Activation Summary	
Activation13	
Activation2	
Activation3	
Activation5	

Message Links

to **Object** ms

Name return

Number 3.1

diagram_unique_name <oeref:design#Class#id32faed7ao7sydd7axoad2.diagram:oeref>

Activation13

Activation2

Activation3

Activation5

it2

Activation Summary	
Activation12	
Activation7	
Activation8	
Activation9	

Message Links

to **Object** ss

Name return

Number 6.1

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

Activation12

Activation7

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

Activation8

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

Activation9

movableCC

Activation Summary	
Activation1	

Activation Summary

Activation6

Message Links

to **Object** it

Name return

Number 1.1

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

to **Object** it2

Name return

Number 4.1

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

Activation1

diagram_unique_name <oiref:design#Class#id32faed7ao7sydd7axoad2.diagram:oiref>

Activation6

ms

Activation Summary	
Activation4	

Activation4

Object1

Stereotype actor

ss

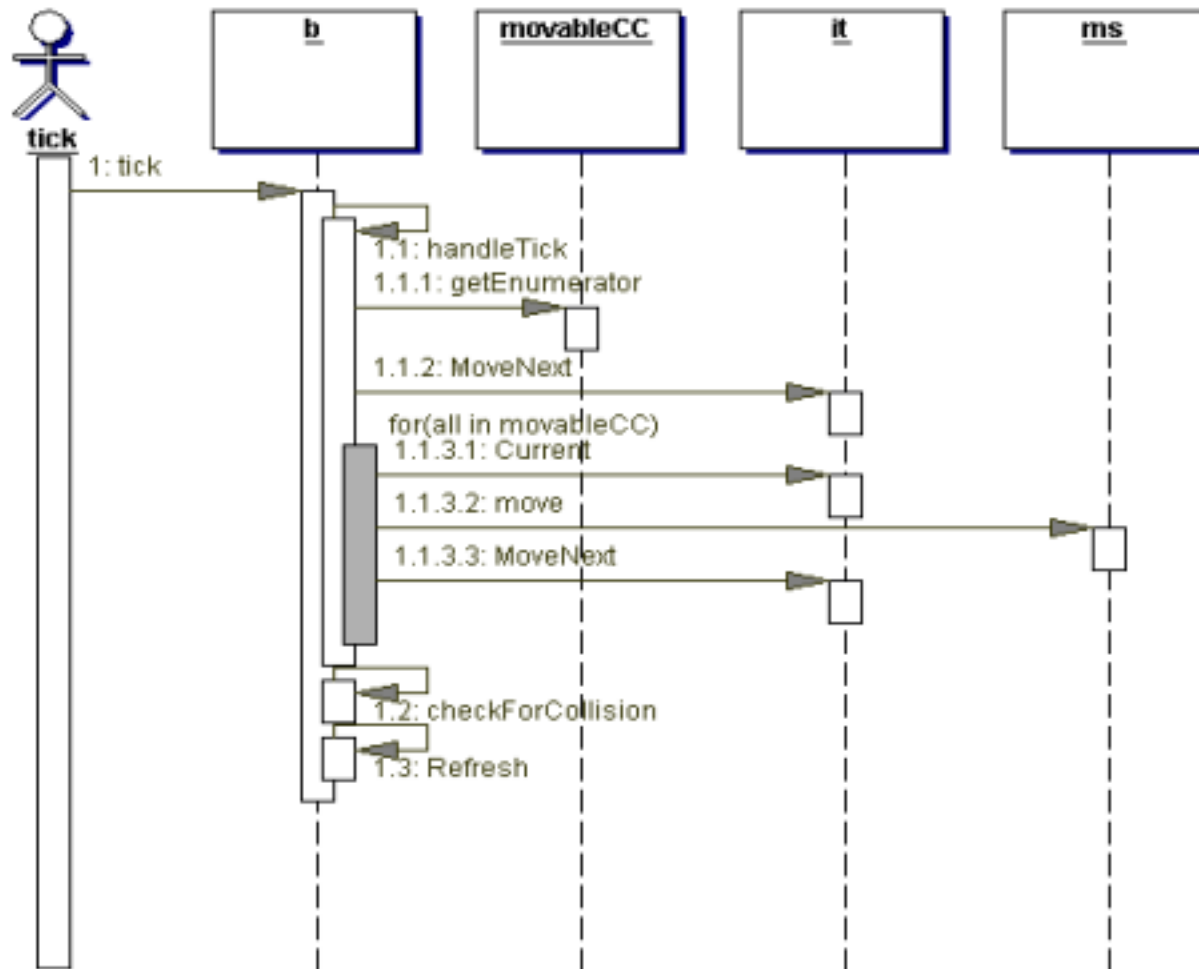
Activation Summary	
Activation10	
Activation11	

Activation10

Activation11

GameBoard

Sequence Diagram tick



Object Summary**b****it****movableCC****ms****tick****Diagram Elements Detail****b****Activation Summary****Activation1****Activation2****Activation8****Activation9****StatementBlock Summary****StatementBlock1**

Message Links

to **Object** b

Name handleTick

Number 1.1

diagram_unique_name <oiref:design#Class#id26veud7ao7sydd7armz1.diagram:oiref>

to **Object** movableCC

Name getEnumerator

Number 1.1.1

diagram_unique_name <oiref:design#Class#id26veud7ao7sydd7armz1.diagram:oiref>

to **Object** it

Name MoveNext

Number 1.1.2

diagram_unique_name <oiref:design#Class#id26veud7ao7sydd7armz1.diagram:oiref>

to **Object** it

Name Current

Number 1.1.3.1

diagram_unique_name <oiref:design#Class#id26veud7ao7sydd7armz1.diagram:oiref>

to **Object** ms

Name move

Number 1.1.3.2

diagram_unique_name <oeref:design#Class#id26veud7ao7sydd7armz1.diagram:oeref>

to **Object** it

Name MoveNext

Number 1.1.3.3

diagram_unique_name <oeref:design#Class#id26veud7ao7sydd7armz1.diagram:oeref>

to **Object** b

Name checkForCollision

Number 1.2

diagram_unique_name <oeref:design#Class#id26veud7ao7sydd7armz1.diagram:oeref>

to **Object** b

Name Refresh

Number 1.3

diagram_unique_name <oeref:design#Class#id26veud7ao7sydd7armz1.diagram:oeref>

Activation1

Activation2

Activation8

Activation9

StatementBlock1

sequenceNumber 1.1.3

name StatementBlock1

statementExpression all in movableCC

statementType for

initialInstant 235

shapeType StatementBlock

diagram_unique_name <oiref:design#Class#id26veud7ao7sydd7armz1.diagram:oiref>

processingDuration 94

it

Activation Summary	
Activation4	
Activation5	

Activation Summary	
Activation7	

Activation4

Activation5

Activation7

movableCC

Activation Summary	
Activation3	

Activation3

ms

Activation Summary

Activation6

Activation6

tick

Stereotype actor

Message Links

to Object b

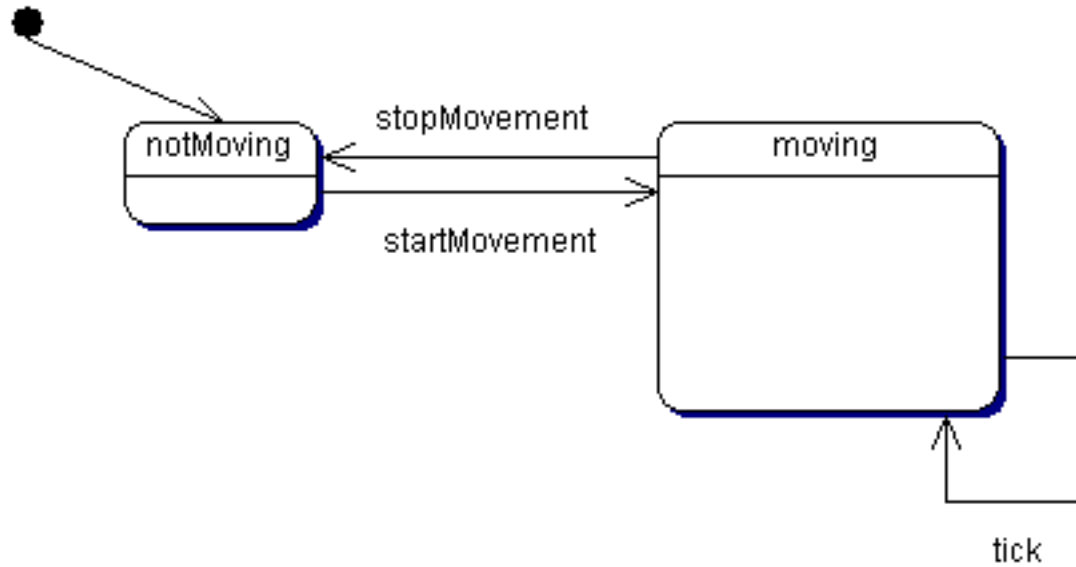
Name tick

Number 1

diagram_unique_name <oiref:design#Class#id26veud7ao7sydd7armz1.diagram:oiref>

GameBoard

State Diagram boardState



Start State Summary

StartState1	
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State Summary

moving	
--------	--

State Summary

notMoving

Diagram Elements Detail

StartState1

backgroundColor 0,0,0

Transition Links

to **State** notMoving

moving

Transition Links

to **State** notMoving

Event stopMovement

to **State** moving

Event tick

notMoving

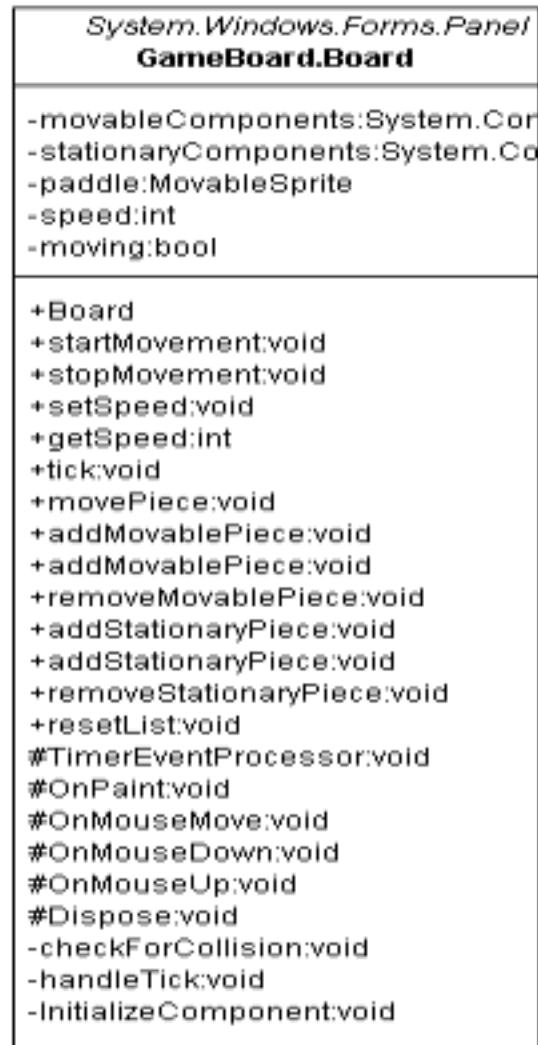
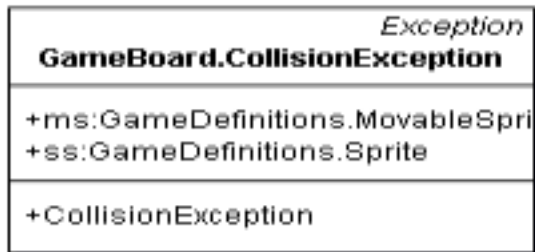
Transition Links

to **State** moving

Event startMovement

GameBoard

Class Diagram GameBoard



Class Summary	
Board	Summary description for Board.
CollisionException	Summary description for CollisionException.

GameBoard

Class Board

```
public class Board implements System.Windows.Forms.Panel
```

Summary description for Board.

This is the reusable GameBoard component that will be used for all of the games in the ArcadeGame product line. It is created as a component which in C# doesn't mean very much. It is dependent on GameDefinitions.dll. The algorithms in the GameBoard class are written in terms of the abstract class definitions for Sprites, MovableSprites, and StationarySprites.

summary

Summary description for Board.

This is the reusable GameBoard component that will be used for all of the games in the ArcadeGame product line. It is created as a component which in C# doesn't mean very much. It is dependent on GameDefinitions.dll. The algorithms in the GameBoard class are written in terms of the abstract class definitions for Sprites, MovableSprites, and StationarySprites.

Constructor Summary

Board(Point p, Size s)

Method Summary

void

addMovablePiece(IComponent ic, String s)

Adds a MovablePiece to the GameBoard

void

addMovablePiece(IComponent ic)

void

addStationaryPiece (IComponent ic, String s)

Adds a StationaryPiece to the GameBoard

void

addStationaryPiece (IComponent ic)

int

getSpeed ()

void

movePiece (ISite c, System.Drawing.Point p)

Manually moves the piece located at ISite c to the Location p

Method Summary

void	removeMovablePiece (IComponent ic)
void	removeStationaryPiece (IComponent ic)
void	resetList ()
void	setSpeed (int newValue)
void	startMovement () Starts the MovableSprites moving
void	stopMovement () Stops MovableSprites
void	tick () Propagates the external timer's tick to all objects that need timer ticks.

Constructor Detail

Board

```
public Board(Point p, Size s)
```

Method Detail

addMovablePiece

```
public void addMovablePiece(IComponent ic, String s)
```

Adds a MovablePiece to the GameBoard

Parameters:

The MovablePiece that will be added

A name for that piece. Used to identify the piece.

Preconditions movableCC != null

Postconditions movableCC.contains(ic)

summary

Adds a MovablePiece to the GameBoard

addMovablePiece

```
public void addMovablePiece(IComponent ic)
```

Preconditions movableCC != null

Postconditions movableCC.contains(ic)

addStationaryPiece

public void **addStationaryPiece** (IComponent ic, String s)

Adds a StationaryPiece to the GameBoard

Parameters:

The StationaryPiece that will be added

A name for that piece. Used to identify the piece.

Preconditions stationaryCC != null

Postconditions stationaryCC.contains(ic)

summary

Adds a StationaryPiece to the GameBoard

addStationaryPiece

public void **addStationaryPiece** (IComponent ic)

Preconditions stationaryCC != null

Postconditions stationaryCC.contains(ic)

getSpeed

public int **getSpeed** ()

Preconditions none

Postconditions speed=speed@pre

movePiece

public void **movePiece** (ISite c, System.Drawing.Point p)

Manually moves the piece located at ISite c to the Location p

Parameters:

The location of the piece in the container

The location of the piece in game coordinates

summary

Manually moves the piece located at ISite c to the Location p

removeMovablePiece

public void **removeMovablePiece** (IComponent ic)

Preconditions movableCC != null

Postconditions !movableCC.contains(ic)

removeStationaryPiece

public void **removeStationaryPiece** (IComponent ic)

Preconditions stationaryCC!=null

Postconditions !stationaryCC.contains(ic)

resetList

public void **resetList** ()

Preconditions none

Postconditions movableCC = null

setSpeed

public void **setSpeed** (int newValue)

Preconditions newValue >= 0

Postconditions speed = newValue

startMovement

public void **startMovement** ()

Starts the MovableSprites moving

Preconditions null

Postconditions moving = true

summary

Starts the MovableSprites moving

stopMovement

public void **stopMovement**()

Stops MovableSprites

Postconditions moving = false

summary

Stops MovableSprites

tick

public void **tick**()

Propagates the external timer's tick to all objects that need timer ticks.

Preconditions none

Postconditions pieces moved, collisions resolved

summary

Propagates the external timer's tick to all objects that need timer ticks.

Association Links

to **Class** GameDefinitions.MovableSprite

GameBoard

Class CollisionException

```
public class CollisionException implements Exception
```

Summary description for CollisionException.

summary

Summary description for CollisionException.

Field Summary

GameDefinitions. MovableSprite	ms
GameDefinitions. Sprite	ss

Constructor Summary

CollisionException (GameDefinitions.MovableSprite m, GameDefinitions.Sprite s)

Constructor that sets up the exception

Field Detail

ms

public GameDefinitions.MovableSprite **ms**

ss

public GameDefinitions.Sprite **ss**

Constructor Detail

CollisionException

public **CollisionException** (GameDefinitions.MovableSprite m, GameDefinitions.Sprite s)

Constructor that sets up the exception

Parameters:

MovableSprite that moved into the collision

Sprite that is the second party to the collision

summary

Constructor that sets up the exception

Association Links

to **Class** GameDefinitions.MovableSprite

to **Class** GameDefinitions.Sprite

Package GameDefinitions

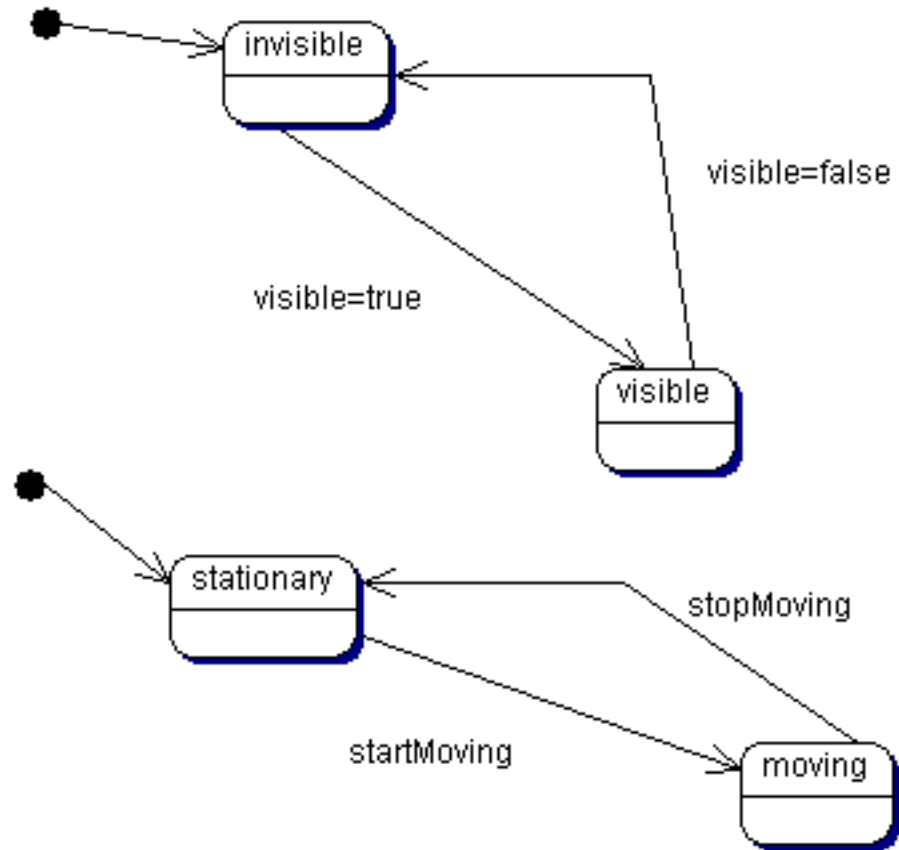
Class Diagram Summary	
GameDefinitions	

State Diagram Summary	
MovableSpriteState	
SpriteState	

Class Summary	
Direction	Summary description for Direction.
MovableSprite	Summary description for MovableSprite.
Speed	Summary description for Speed.
Sprite	Summary description for Class1.
StationarySprite	Summary description for StationarySprite.
Velocity	Summary description for Velocity.

GameDefinitions

State Diagram MovableSpriteState



Start State Summary

StartState1	
StartState2	

State Summary

invisible	
moving	
stationary	
visible	

Diagram Elements Detail

StartState1

backgroundColor 0,0,0

Transition Links

to **State** invisible

StartState2

backgroundColor 0,0,0

Transition Links

to **State** stationary

invisible

Transition Links

to **State** visible

Event visible=true

moving

Transition Links

to **State** stationary

Event stopMoving

stationary

Transition Links

to **State** moving

Event startMoving

visible

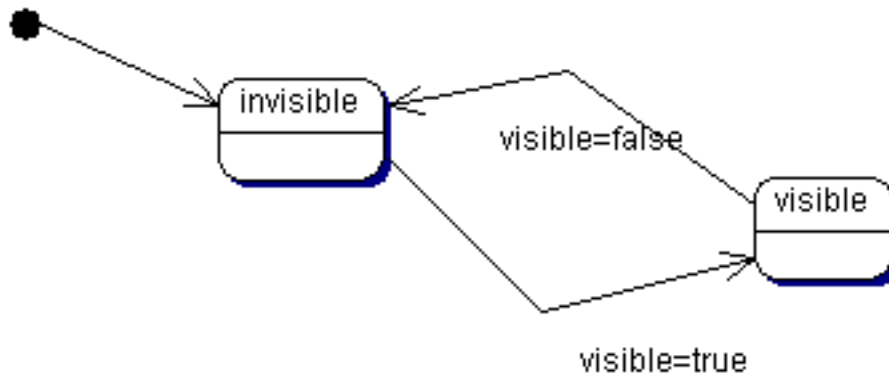
Transition Links

to **State** invisible

Event visible=false

GameDefinitions

State Diagram SpriteState



Start State Summary

StartState1	
-------------	--

State Summary

invisible	
visible	

Diagram Elements Detail

StartState1

backgroundColor 0,0,0

Transition Links

to **State** invisible

invisible

Transition Links

to **State** visible

Event visible=true

visible

Transition Links

to **State** invisible

Event visible=false

GameDefinitions

Class Diagram GameDefinitions



Class Summary	
Direction	Summary description for Direction.
MovableSprite	Summary description for MovableSprite.
Speed	Summary description for Speed.
Sprite	Summary description for Class1.
StationarySprite	Summary description for StationarySprite.
Velocity	Summary description for Velocity.

GameDefinitions

Class Direction

public class Direction

Summary description for Direction.

summary

Summary description for Direction.

Constructor Summary

Direction ()

Direction (int value)

Method Summary

int

getDirection ()

Constructor Detail

Direction

public **Direction** ()

Direction

public **Direction** (int value)

Method Detail

getDirection

public int **getDirection** ()

GameDefinitions

Class MovableSprite

Direct Known Subclasses:Paddle, Puck, Paddle

```
public abstract class MovableSprite implements Sprite
```

Summary description for MovableSprite.

summary

Summary description for MovableSprite.

Field Summary	
Direction	myDirection
Speed	mySpeed

Constructor Summary

MovableSprite(Point p, Size s)

Constructor –

Method Summary

virtual void

delete()

virtual void

move()

void

paint(PaintEventArgs e)

void

reverseX()

void

reverseY()

void

startMoving()

void

stopMoving()

Field Detail

myDirection

public Direction **myDirection**

mySpeed

public Speed **mySpeed**

Constructor Detail

MovableSprite

public **MovableSprite**(Point p, Size s)

Constructor –

Parameters:

Location

Size

summary

Constructor –

Method Detail

delete

public virtual void **delete** ()

move

public virtual void **move**()

paint

public void **paint**(PaintEventArgs e)

reverseX

public void **reverseX**()

reverseY

public void **reverseY()**

startMoving

public void **startMoving()**

stopMoving

public void **stopMoving()**

Association Links

to **Class** GameDefinitions.Velocity

to **Class** GameDefinitions.Speed

to **Class** GameDefinitions.Direction

GameDefinitions

Class Speed

public class Speed

Summary description for Speed.

summary

Summary description for Speed.

Constructor Summary

Speed()

Speed(int value)

Method Summary

int

getSpeed()

Constructor Detail

Speed

public **Speed**()

Speed

public **Speed**(int value)

Method Detail

getSpeed

public int **getSpeed**()

GameDefinitions

Class Sprite

Direct Known Subclasses: MovableSprite, StationarySprite

public abstract class Sprite implements IComponent

Summary description for Class1.

summary

Summary description for Class1.

Field Summary	
EventHandler	Disposed
System.Windows.Forms.PictureBox	icon the image of the Sprite
System.Drawing.Point	Location Location property

Field Summary

ISite

Site

bool

visible

Is the Sprite visible

Constructor Summary

Sprite(Point p, Size s)

The base constructor for the Sprite hierarchy

Method Summary

abstract void

collideWith (MovableSprite m)

This method is overridden by each Sprite to determine their behavior in a collision

virtual void

Dispose (object sender, System.EventArgs e)

called when the Sprite is deleted

Method Summary

virtual void	Dispose () called when the Sprite is deleted
Rectangle	getBoundingBox () return the bounding box of the Sprite
PictureBox	getPicture () gets the icon for this Sprite
abstract void	paint(PaintEventArgs e)
void	setBoundingBox () sets the boundary around the Sprite that signifies a collision

Field Detail

Disposed

public EventHandler **Disposed**

icon

public System.Windows.Forms.PictureBox **icon**

the image of the Sprite

summary

the image of the Sprite

Location

public System.Drawing.Point **Location**

Location property

summary

Location property

Site

public ISite **Site**

visible

public bool **visible**

Is the Sprite visible

summary

Is the Sprite visible

Constructor Detail

Sprite

public **Sprite**(Point p, Size s)

The base constructor for the Sprite hierarchy

Parameters:

Location of the Sprite

The size of the Sprite

summary

The base constructor for the Sprite hierarchy

Method Detail

collideWith

public abstract void **collideWith** (MovableSprite m)

This method is overridden by each Sprite to determine their behavior in a collision

Parameters:

The MovableSprite that this Sprite has collided with

summary

This method is overridden by each Sprite to determine their behavior in a collision

Dispose

public virtual void **Dispose** (object sender, System.EventArgs e)

called when the Sprite is deleted

Parameters:

summary

called when the Sprite is deleted

Dispose

public virtual void **Dispose** ()

called when the Sprite is deleted

summary

called when the Sprite is deleted

getBoundingBox

public Rectangle **getBoundingBox** ()

return the bounding box of the Sprite

summary

return the bounding box of the Sprite

returns

getPicture

public PictureBox **getPicture** ()

gets the icon for this Sprite

summary

gets the icon for this Sprite

returns

paint

public abstract void **paint**(PaintEventArgs e)

setBoundingBox

public void **setBoundingBox** ()

sets the boundary around the Sprite that signifies a collision

summary

sets the boundary around the Sprite that signifies a collision

Association Links

to **Class** GameDefinitions.Sprite

GameDefinitions

Class StationarySprite

Direct Known Subclasses: Brick, BrickPile, Ceiling Floor, Wall

```
public abstract class StationarySprite implements Sprite
```

Summary description for StationarySprite.

summary

Summary description for StationarySprite.

Constructor Summary

StationarySprite (Point p, Size s)

Constructor Detail

StationarySprite

```
public StationarySprite (Point p, Size s)
```

GameDefinitions

Class Velocity

public class Velocity

Summary description for Velocity.

summary

Summary description for Velocity.

Constructor Summary

Velocity ()

Velocity (Speed speed, Direction direction)

Method Summary

Direction

getDirection ()

Method Summary

Speed

getSpeed ()

bool

isHeadingDown ()

bool

isHeadingLeft ()

bool

isHeadingRight ()

bool

isHeadingUp()

void

reverse ()

void

reverseX()

void

reverseY()

void

setDirection (Direction direction)

void

setSpeed (Speed speed)

Method Summary

int

speedX()

int

speedY()

Constructor Detail

Velocity

public **Velocity** ()

Velocity

public **Velocity** (Speed speed, Direction direction)

Method Detail

getDirection

public Direction **getDirection** ()

getSpeed

```
public Speed getSpeed ()
```

isHeadingDown

```
public bool isHeadingDown ()
```

isHeadingLeft

```
public bool isHeadingLeft ()
```

isHeadingRight

```
public bool isHeadingRight ()
```

isHeadingUp

```
public bool isHeadingUp ()
```

reverse

public void **reverse**()

reverseX

public void **reverseX**()

reverseY

public void **reverseY**()

setDirection

public void **setDirection** (Direction direction)

setSpeed

public void **setSpeed** (Speed speed)

speedX

public int **speedX**()

speedY

public int **speedY**()

Package WindowsApplication7

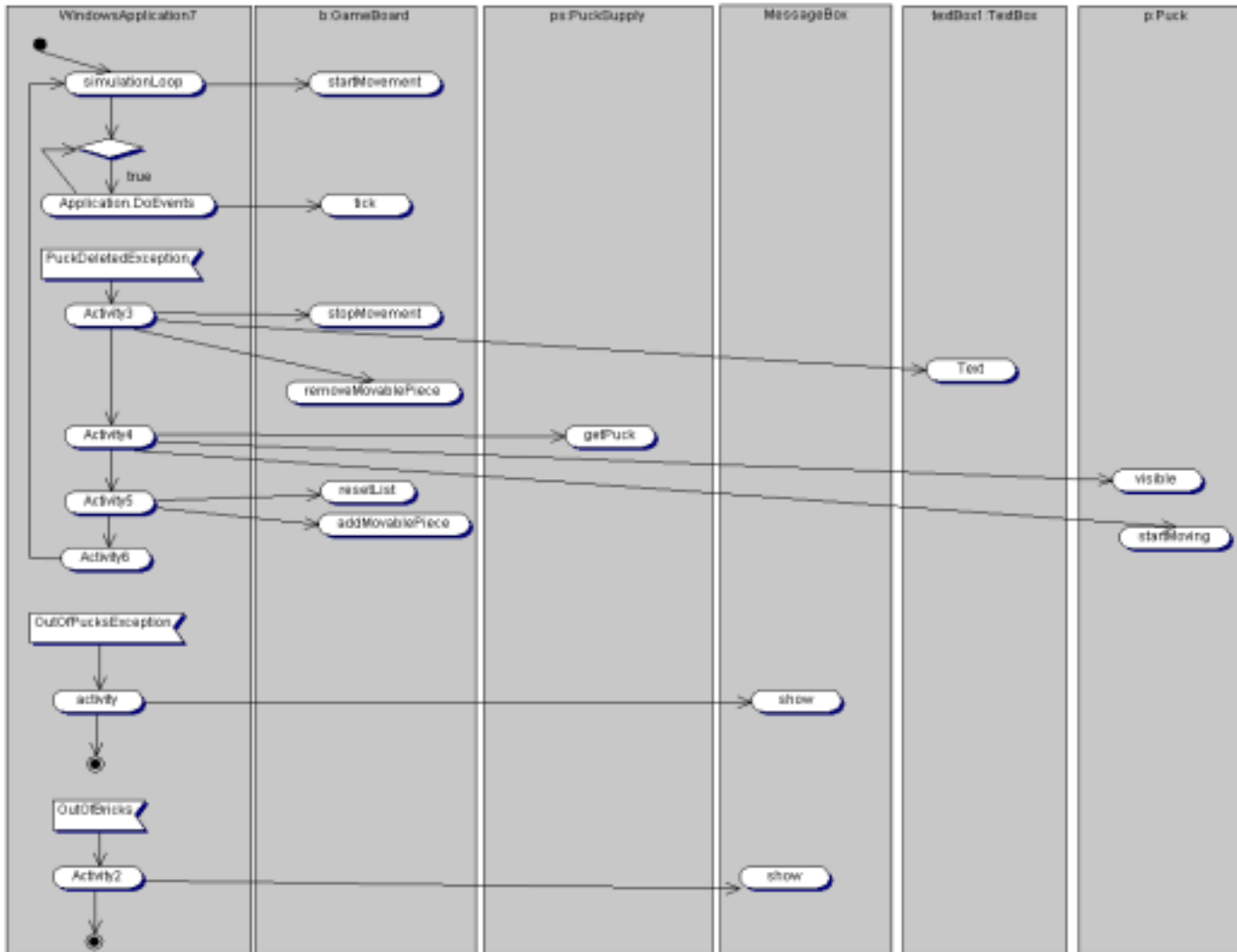
Activity Diagram Summary	
simulationLoop	

Class Diagram Summary	
WindowsApplication7	

Class Summary	
Form1	Summary description for Form1.
Paddle	Summary description for Paddle.

WindowsApplication7

Activity DiagramsimulationLoop



Swimlane Summary

b:GameBoard

MessageBox

p:Puck

ps:PuckSupply

textBox1:TextBox

WindowsApplication7

Diagram Elements Detail

b:GameBoard

`backgroundColor 200,200,200`

Activity Summary

addMovablePiece

removeMovablePiece

resetList

startMovement

stopMovement

Activity Summary

tick	
------	--

addMovablePiece

removeMovablePiece

resetList

startMovement

stopMovement

tick

MessageBox

backgroundColor 200,200,200

Activity Summary	
show	
show	

show

show

p:Puck

backgroundColor 200,200,200

Activity Summary	
startMoving	
visible	

startMoving

visible

ps:PuckSupply

backgroundColor 200,200,200

Activity Summary	
getPuck	

getPuck

textBox1:TextBox

backgroundColor 200,200,200

Activity Summary	
Text	

Text

WindowsApplication7

backgroundColor 200,200,200

Activity Summary	
activity	
Activity2	
Activity3	
Activity4	
Activity5	
Activity6	
Application.DoEvents	
simulationLoop	

Decision Summary	
true	

End State Summary	
EndState1	

End State Summary

EndState2	
-----------	--

Signal Receipt Summary

OutOfBricks	
-------------	--

OutOfPucksException	
---------------------	--

PuckDeletedException	
----------------------	--

Start State Summary

StartState1	
-------------	--

activity

Transition Links

to **Activity** show

to **End State** EndState1

Activity2

Transition Links

to **Activity** show

to **End State** EndState2

Activity3

Transition Links

to **Activity** stopMovement

to **Activity** Text

to **Activity** removeMovablePiece

to **Activity** Activity4

Activity4

Transition Links

to **Activity** getPuck

to **Activity** visible

to **Activity** startMoving

to **Activity** Activity5

Activity5

Transition Links

to **Activity** resetList

to **Activity** addMovablePiece

to **Activity** Activity6

Activity6

Transition Links

to **Activity** simulationLoop

Application.DoEvents

Transition Links

to **Activity** tick

to **Decision** true

simulationLoop

Transition Links

to **Activity** startMovement

to **Decision** true

true

Transition Links

to **Activity** Application.DoEvents

Event true

EndState1

EndState2

OutOfBricks

Transition Links

to **Activity** Activity2

OutOfPucksException

Transition Links

to **Activity** activity

PuckDeletedException

Transition Links

to **Activity** Activity3

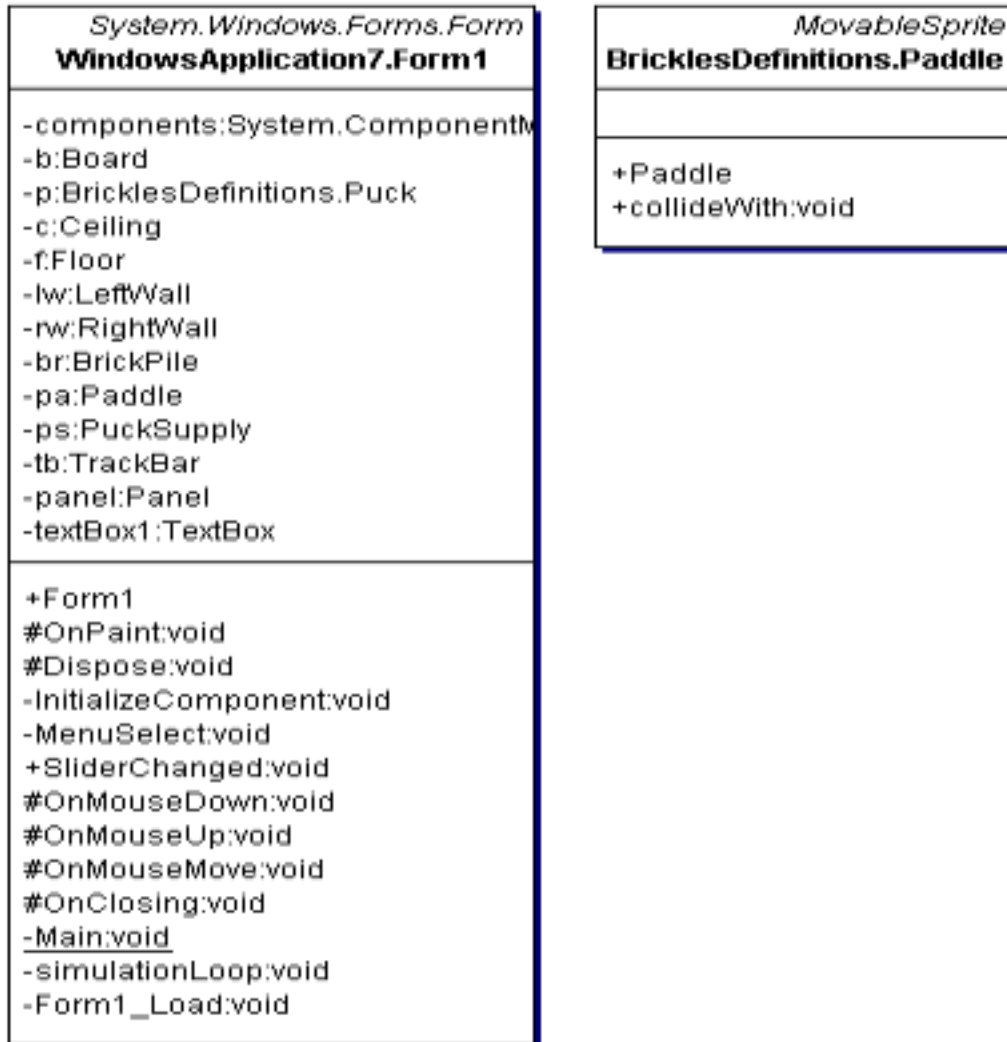
StartState1

Transition Links

to **Activity** simulationLoop

WindowsApplication7

Class Diagram WindowsApplication7



Class Summary

Form1

Summary description for Form1.

Paddle

Summary description for Paddle.

WindowsApplication7

Class Form1

```
public class Form1 implements System.Windows.Forms.Form
```

Summary description for Form1.

summary

Summary description for Form1.

Constructor Summary

Form1()

Method Summary

void

SliderChanged (object sender, System.EventArgs e)

Constructor Detail

Form1

```
public Form1()
```

Method Detail

SliderChanged

```
public void SliderChanged (object sender, System.EventArgs e)
```

Association Links

to **Class** GameBoard.Board

to **Class** BricklesDefinitions.Puck

to **Class** BricklesDefinitions.Ceiling

to **Class** BricklesDefinitions.Floor

to **Class** BricklesDefinitions.LeftWall

to **Class** BricklesDefinitions.RightWall

to **Class** BricklesDefinitions.BrickPile

to **Class** BricklesDefinitions.Paddle

to **Class** BricklesDefinitions.PuckSupply

WindowsApplication7

Class Paddle

```
public class Paddle implements MovableSprite
```

Summary description for Paddle.

summary

Summary description for Paddle.

Constructor Summary

Paddle(Point p, Size s)

Method Summary

void

collideWith (MovableSprite m)

Constructor Detail

Paddle

public **Paddle**(Point p, Size s)

Method Detail

collideWith

public void **collideWith** (MovableSprite m)