

# **Antigen**

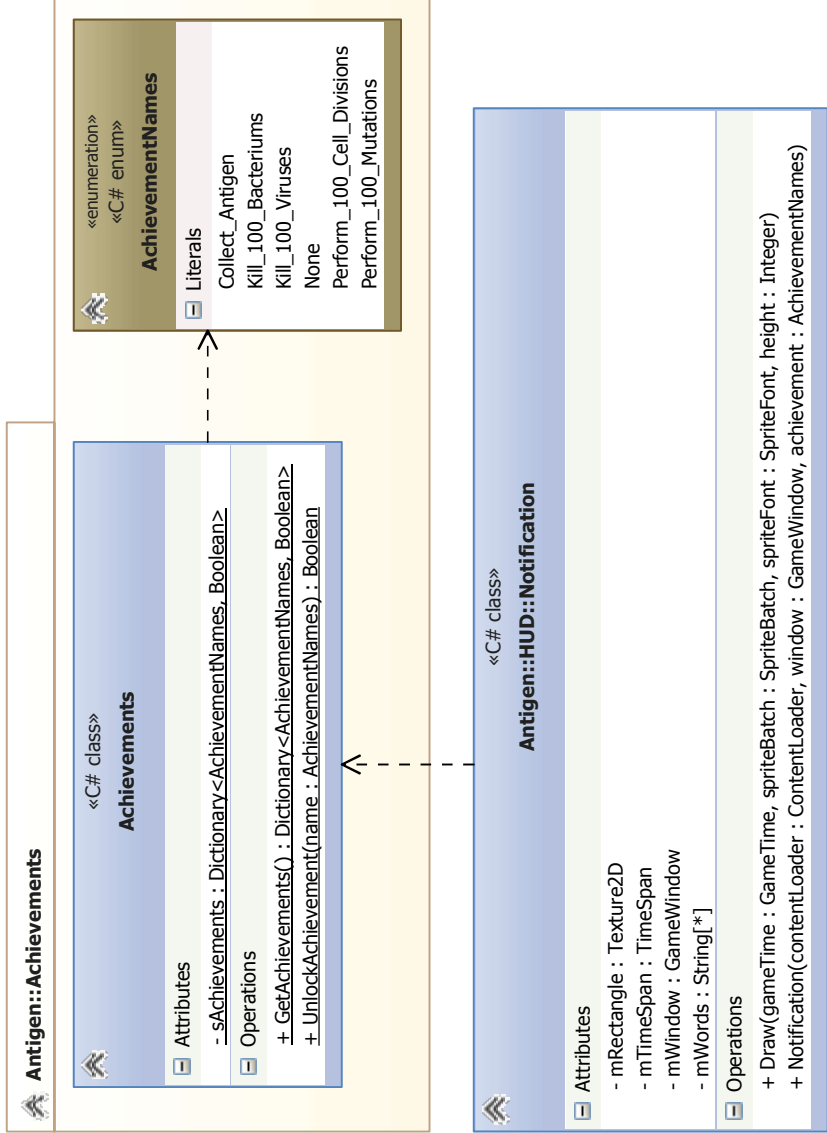
## **Klassendiagramme (paketweise)\***

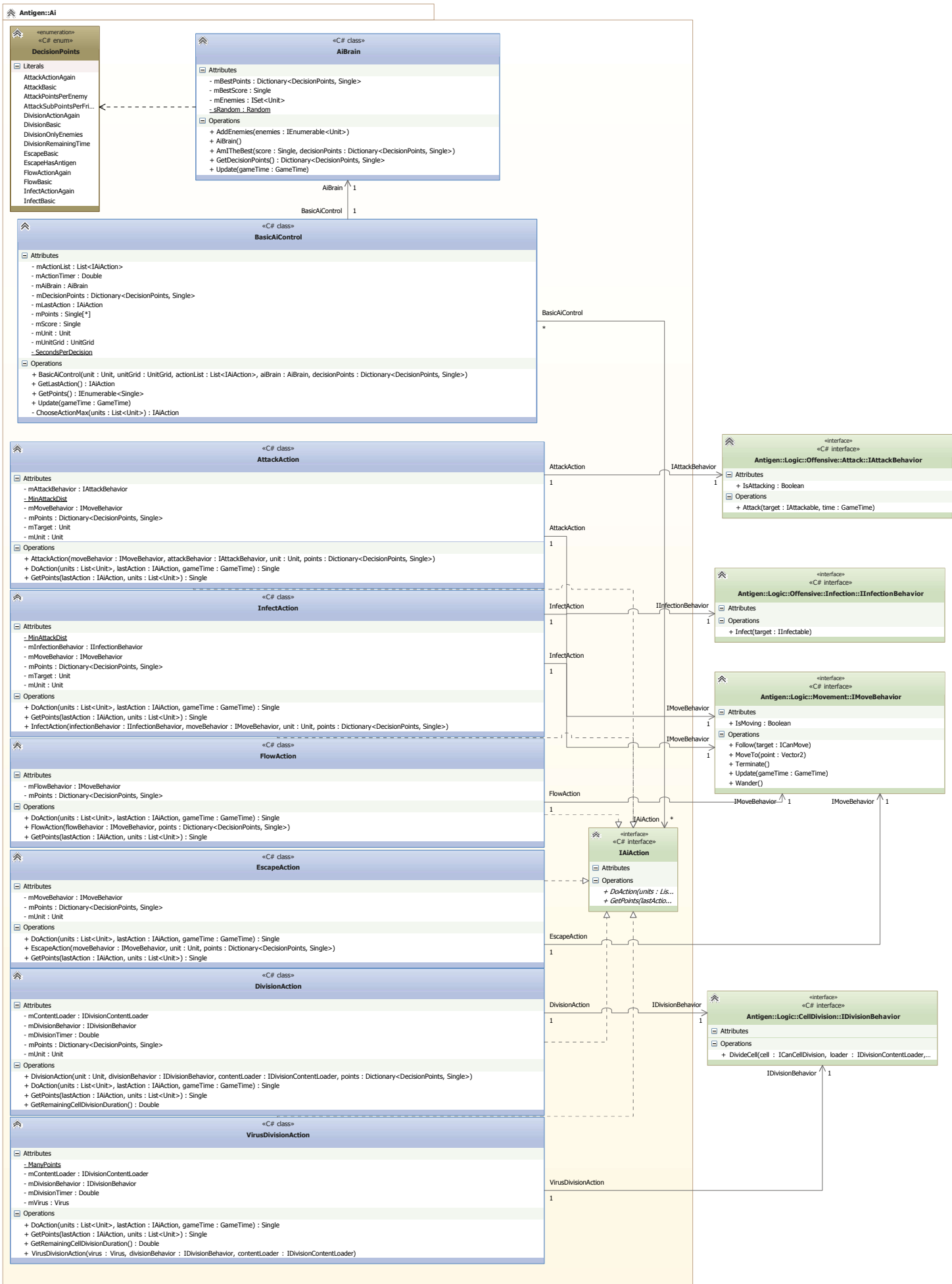
Layla Franke      Thomas Lang      Jannis Limperg  
Daniel Tischner      Silas Zimmermann

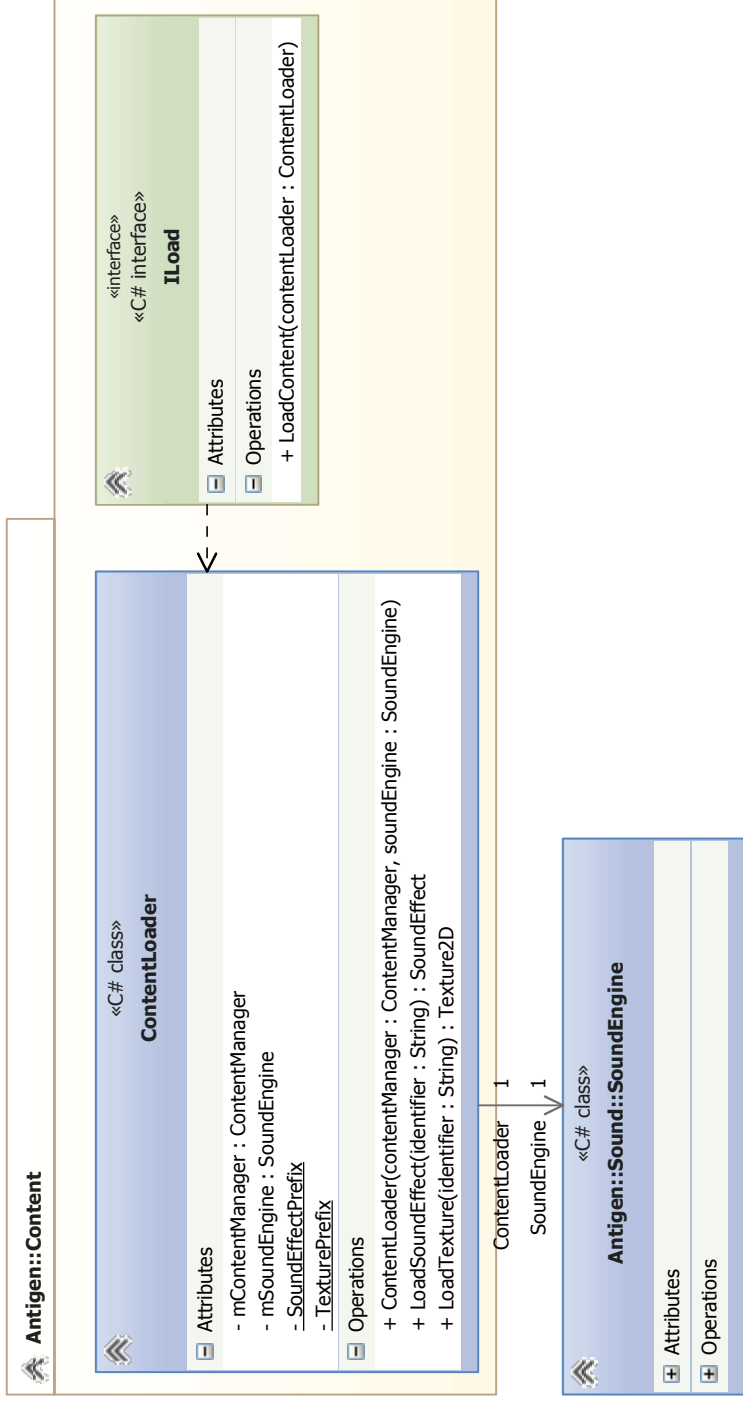
26. Juli 2014

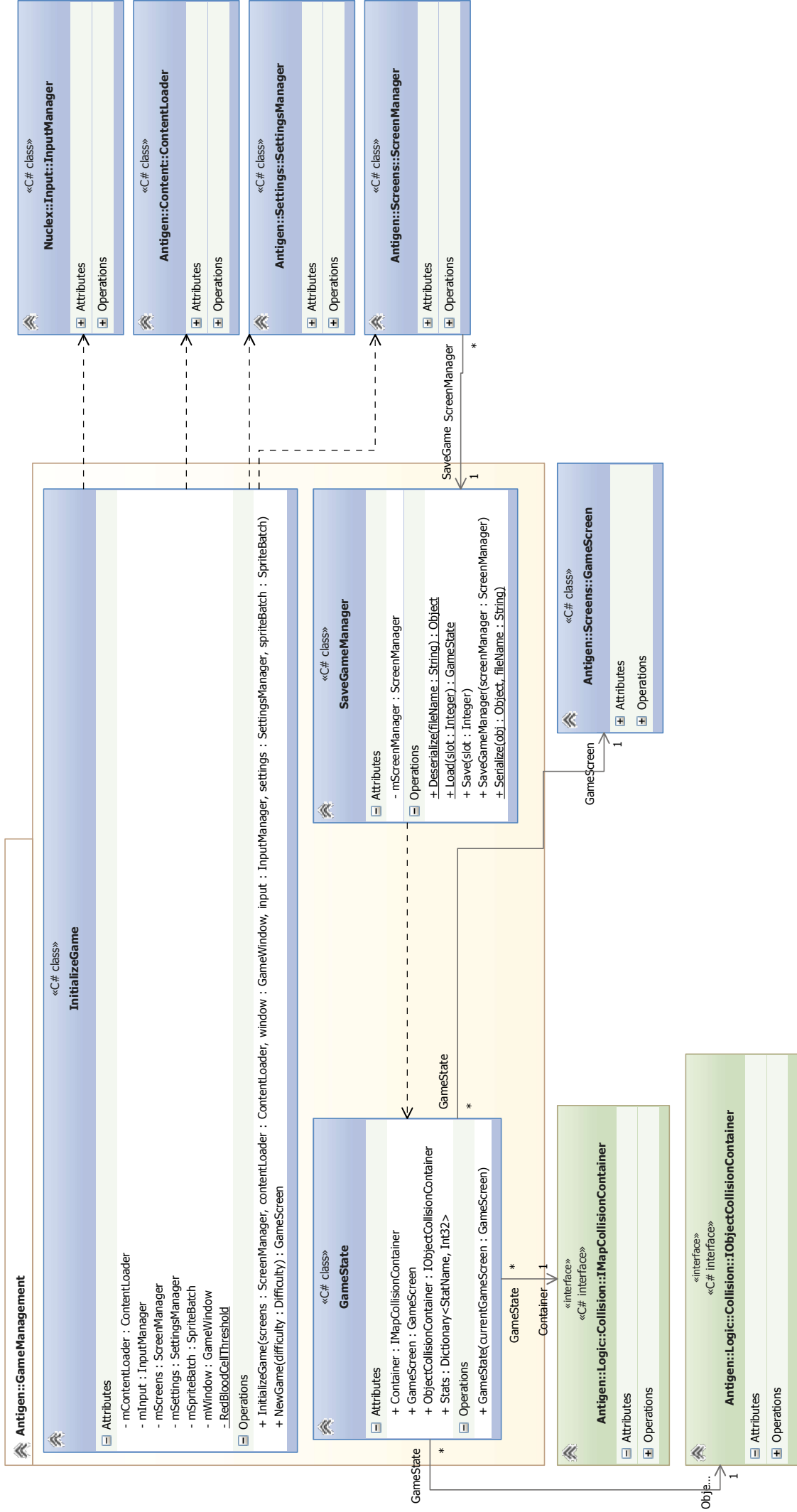
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\*Gruppe 2, Sabine Rogg









Antigen:Graphics

«Interface»  
«C# interface»  
**ICoordTranslation**

Attributes

Operations

+ ToAbsolute(coords : Point) : Point

«Interface»  
«C# interface»  
**IDrawable**

Attributes

Operations

+ Draw(gameTime : GameTime, spriteBatch : SpriteBatch, spriteBatch : SpriteFont)

«C# class»  
**Camera**

Attributes

Operations

+ EventOrder : EventOrder  
+ TransformMatrix : Matrix  
- BaseScrollSpeedInPxPerSec  
- MaxZoom  
- MinZoom  
- mMapHeight : Integer  
- mMapViewWidth : Integer  
- mMinusButtonPressed : Boolean  
- mMouseCoord : Point  
- mPlusButtonPressed : Boolean  
- mPosition : Vector2  
- mScrollSpeedFactor : Single  
- mTransformMatrix : Matrix  
- mWindow : GameWindow  
- mZoom : Single  
- Position : Vector2  
- ScrollAmountPerZoomAmount  
- ScrollSensitiveBorderWidth  
- Zoom : Single  
- ZoomAmountPerSec  
- ZoomAmountPerTick  
Operations  
+ Camera(input : InputDispatcher, window : GameWindow, mapWidth : Integer, mapHeight : Integer, settings : SettingsManager)  
+ Destroy()  
+ HandleKeyPress(key : Keys) : Boolean  
+ HandleKeyRelease(key : Keys) : Boolean  
+ HandleMouseMove(endPoint : Coord<Point>) : Boolean  
+ HandleMouseWheelRotated(ticks : Single) : Boolean  
+ LoadGameState(window : GameWindow, input : InputDispatcher)  
+ ToAbsolute(coords : Point) : Point  
+ Update(gameTime : GameTime)  
- OnSettingsUpdated(sender : Object, args : SettingsUpdateEventArgs)  
- OnSizeChanged(sender : Object, eventArgs : EventArgs)  
- UpdateMatrix()

«C# class»  
**CellDraw**

Attributes

Operations

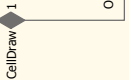
+ Color : Color  
- BarHeight  
- MaxBarWidth  
- mBorderWidth : Integer  
- mCircleTexture : Texture2D  
- mColor : Color  
- mFightValue : Single  
- mGroundColor : Color  
- mHealthBar : Bar  
- mNucleus : Organelle  
- mNucleusColor : Color  
- mNucleusRadius : Single  
- mPlasmaTexture : Texture2D  
- mRadius : Integer  
- mRotation : Single  
- mTimeBar : Bar  
- mWeaponSize : Integer  
- mWeaponTexture : Texture2D  
- SelectionWidth  
Operations  
+ CellDraw(radius : Integer, borderWidth : Integer, nucleusRadius : Integer, weaponSize : Integer, color : Color, nucleusColor : Color, groundColor : Color, maxLifeSpan : Integer)  
+ Draw(spriteBatch : SpriteBatch, spriteBatch : SpriteFont, position : Vector2, divisionProgress : Double, isSelected : Boolean)  
+ LoadContent(contentLoader : ContentLoader)  
+ Update(lifePoints : Integer, lifeSpan : Integer, isFighting : Boolean)  
- DrawCell(spriteBatch : SpriteBatch, position : Vector2, radius : Single)

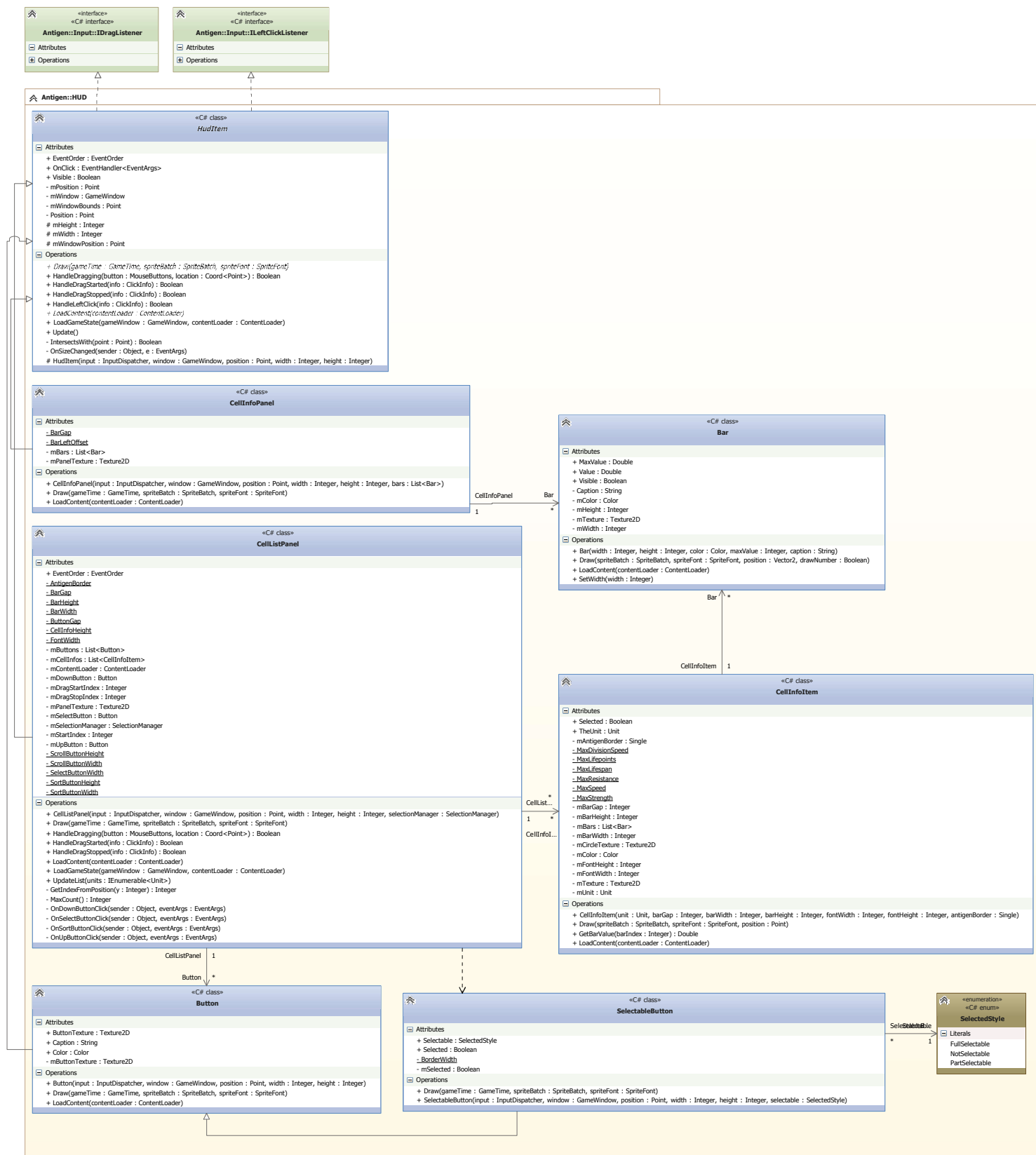
«C# class»  
**Organelle**

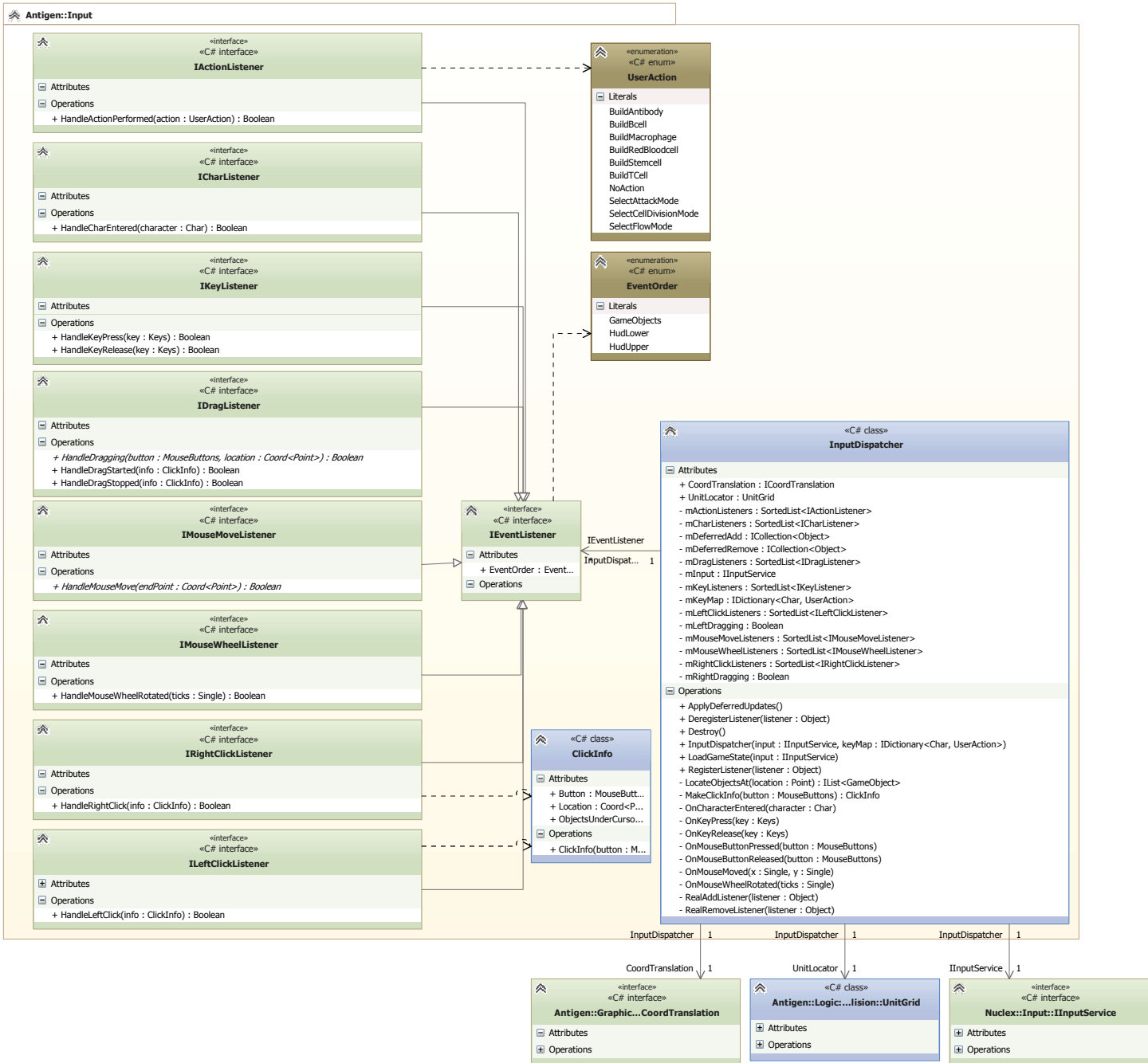
Attributes

Operations

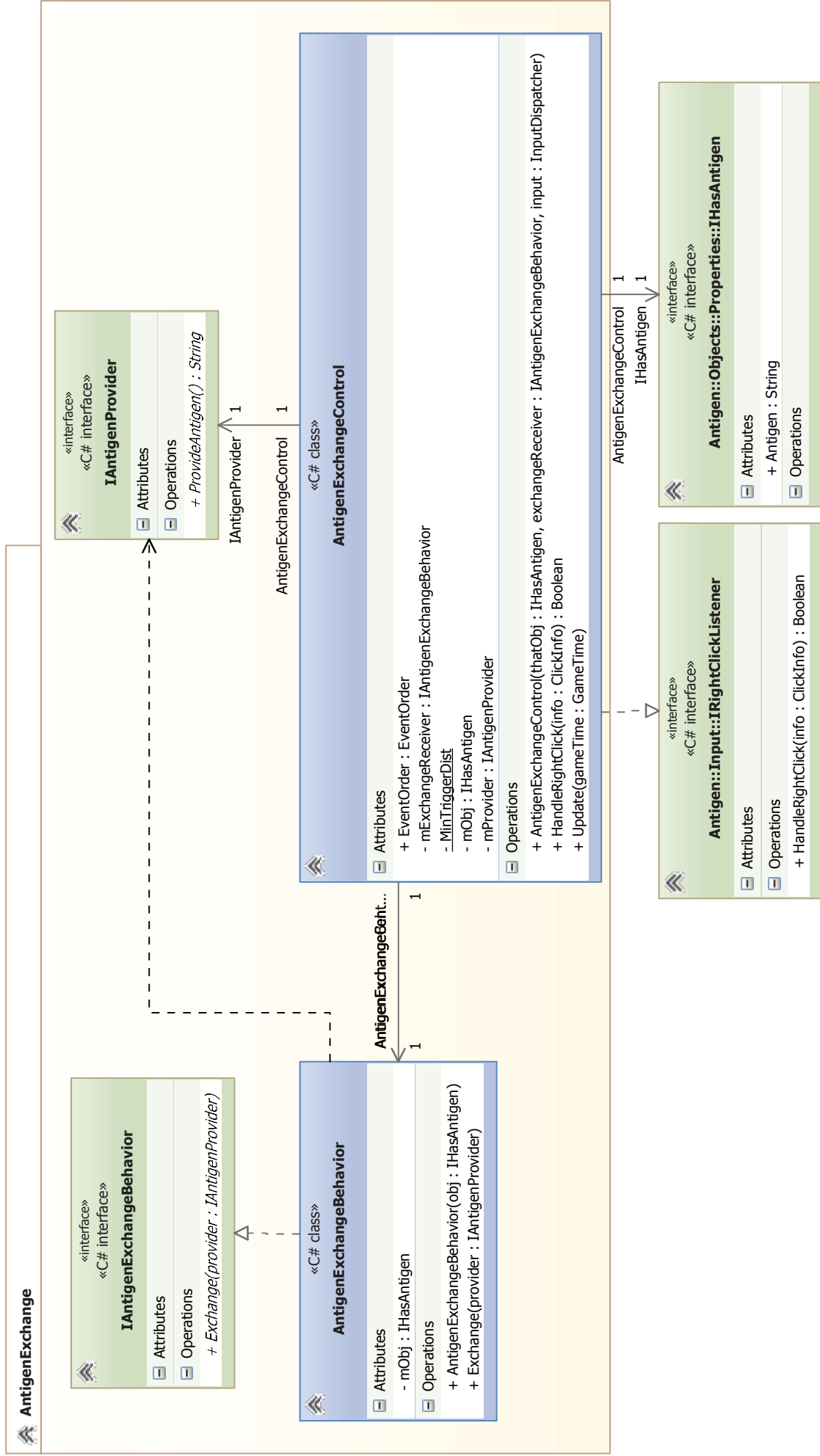
+ Position : Vector2  
+ Rotation : Single  
- mVelocity : Vector2  
- sRandom : Random  
Operations  
+ Organelle()  
+ Update(moveRadius : Single)

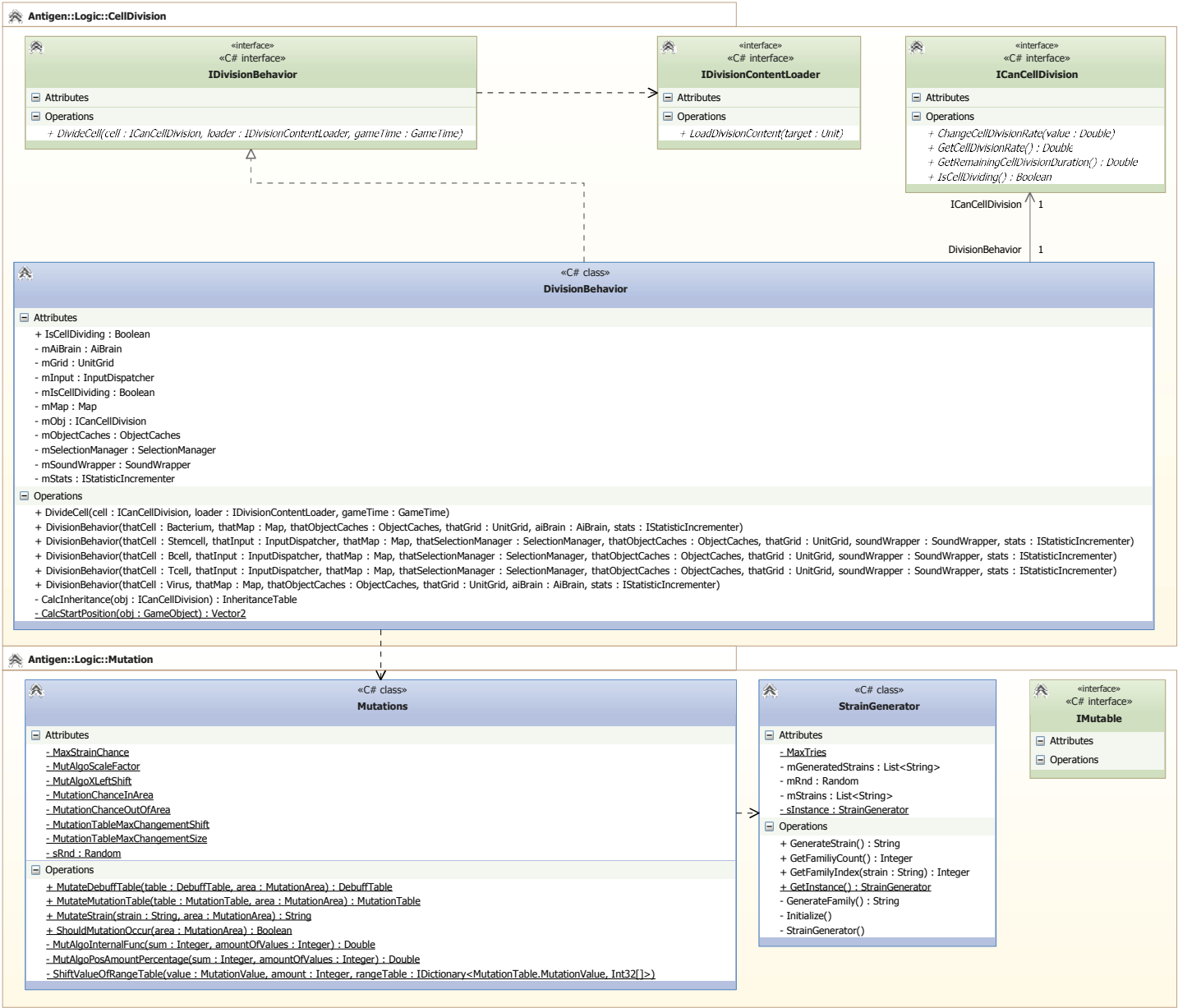


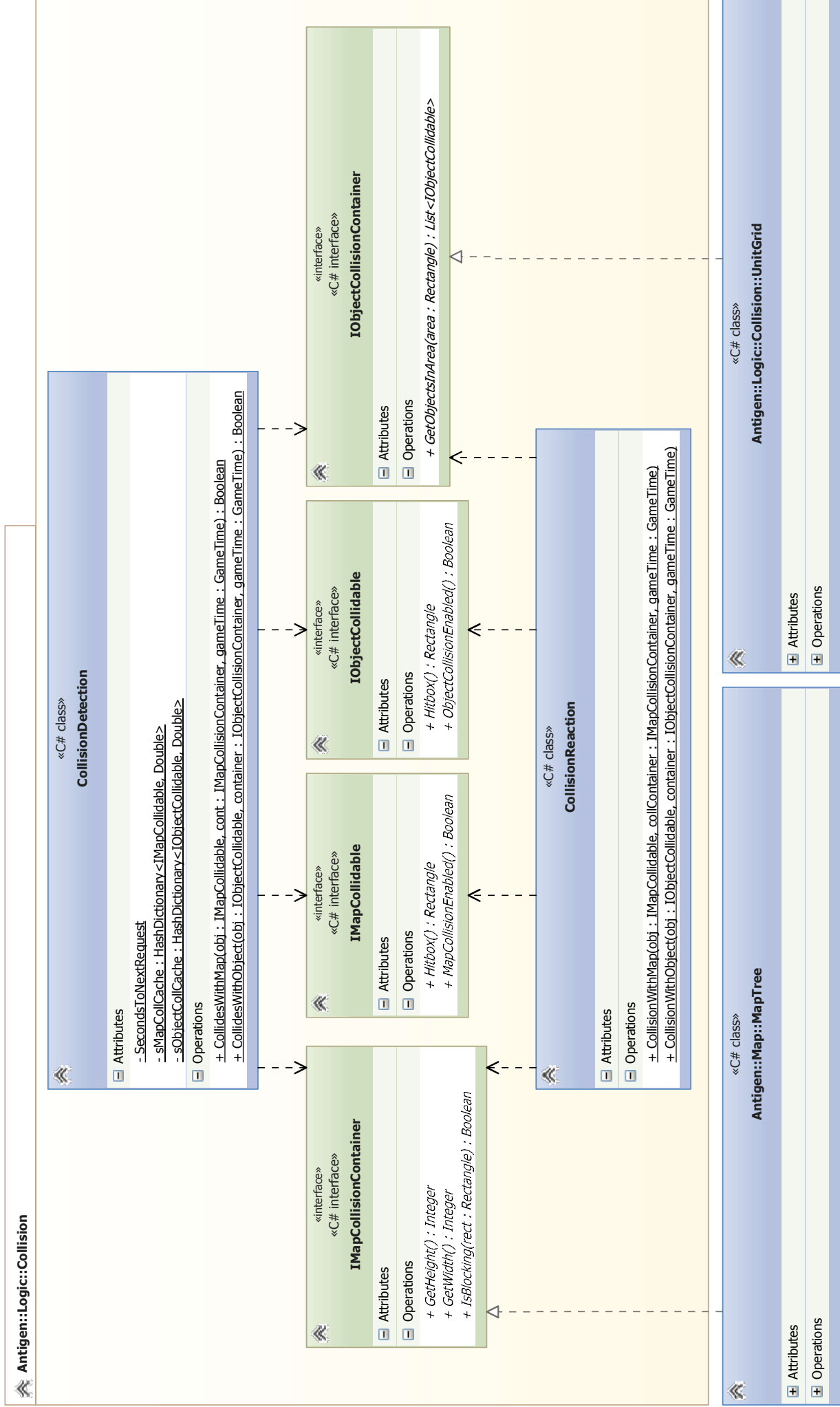


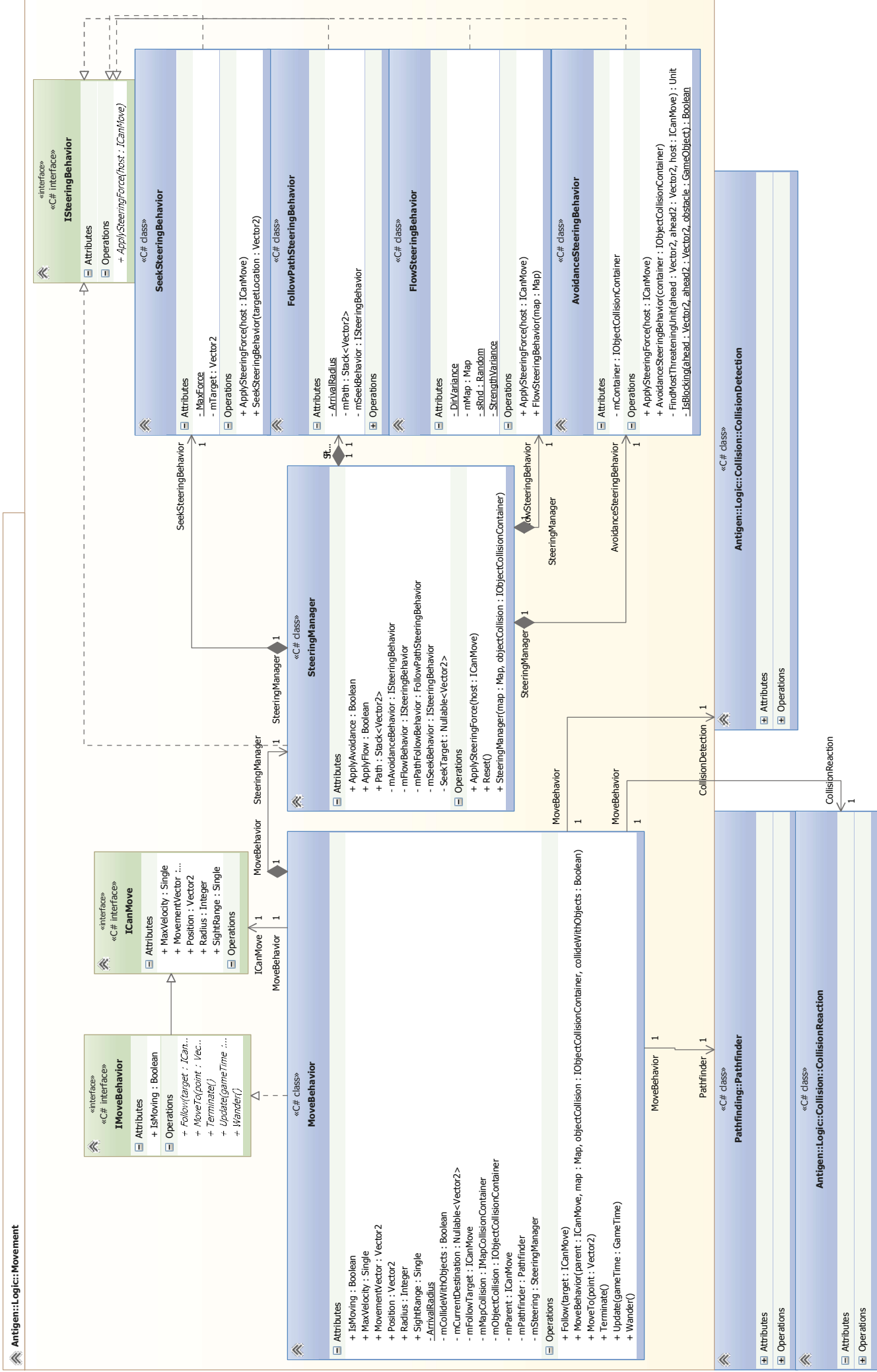


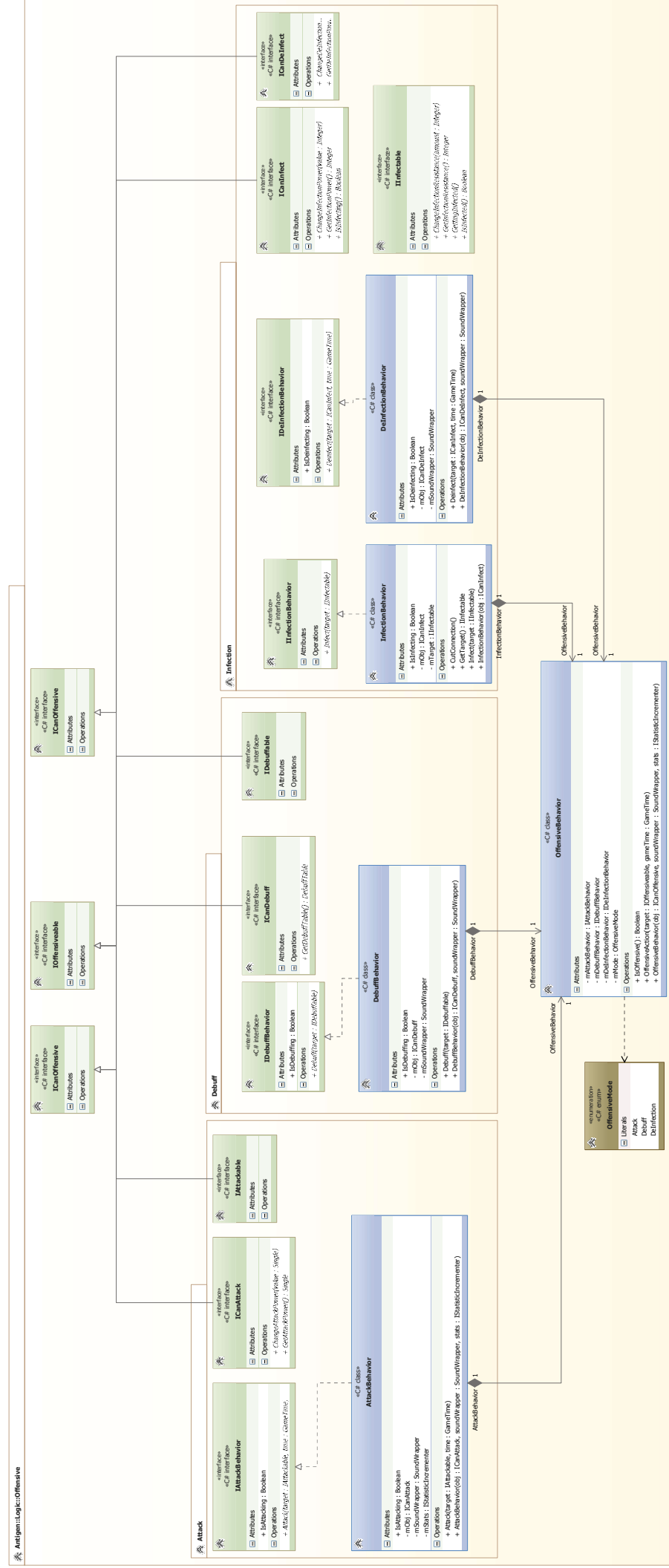


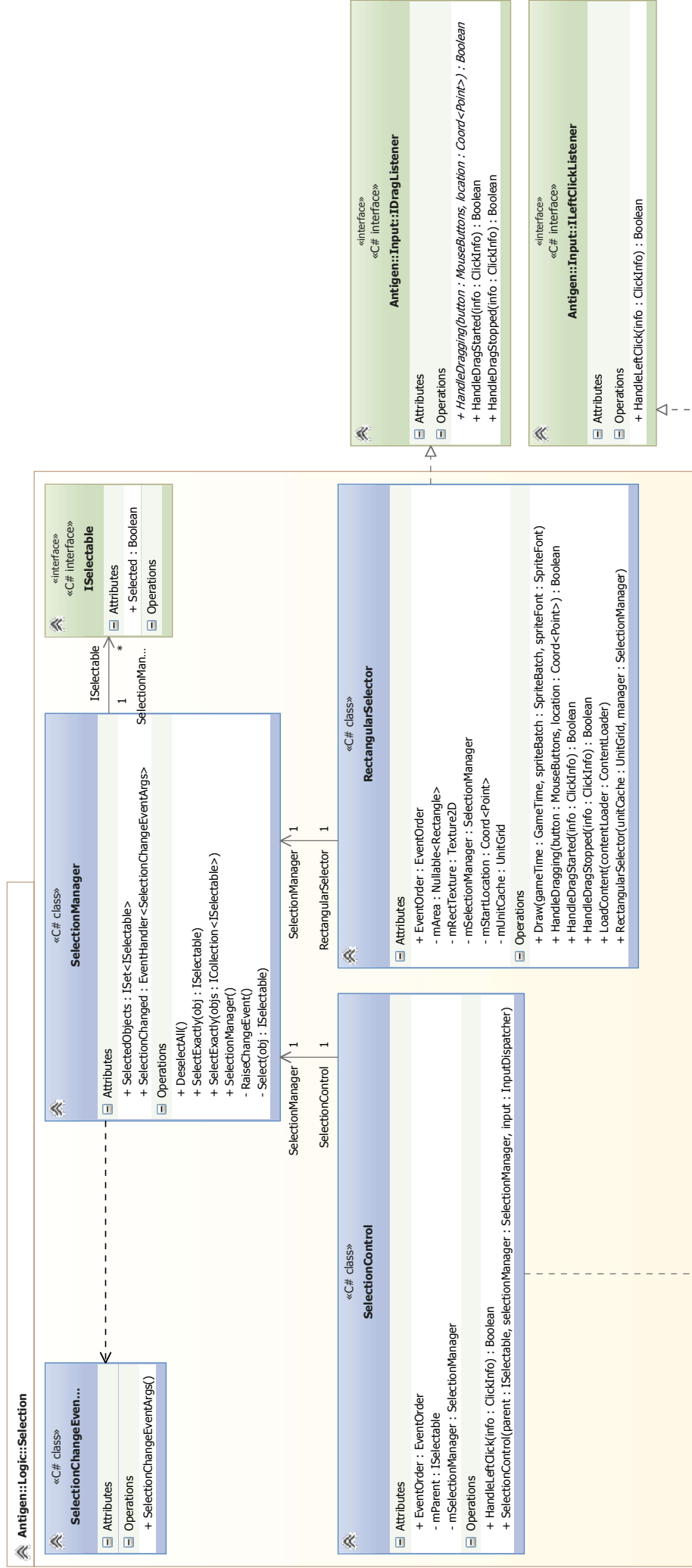


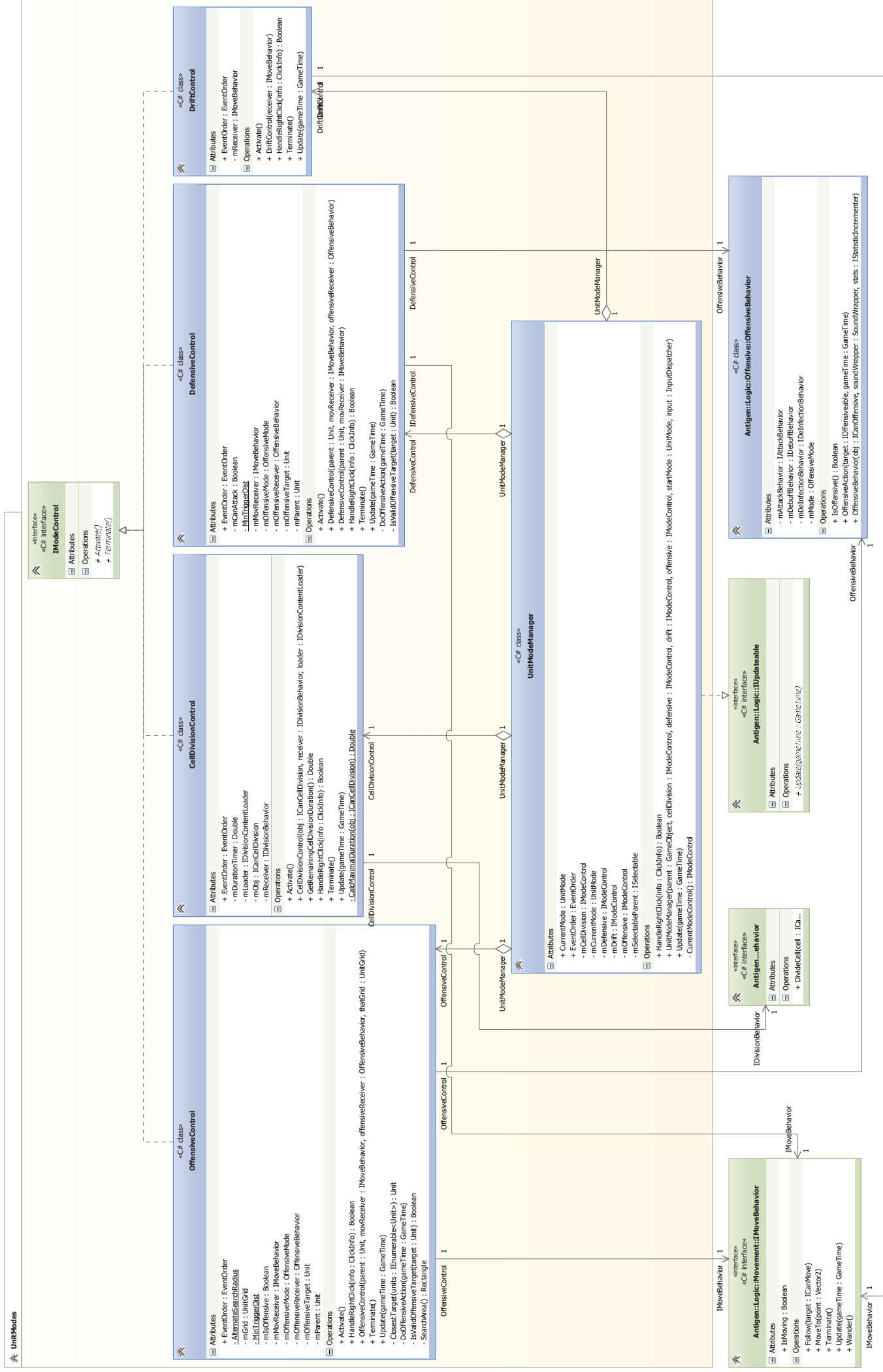


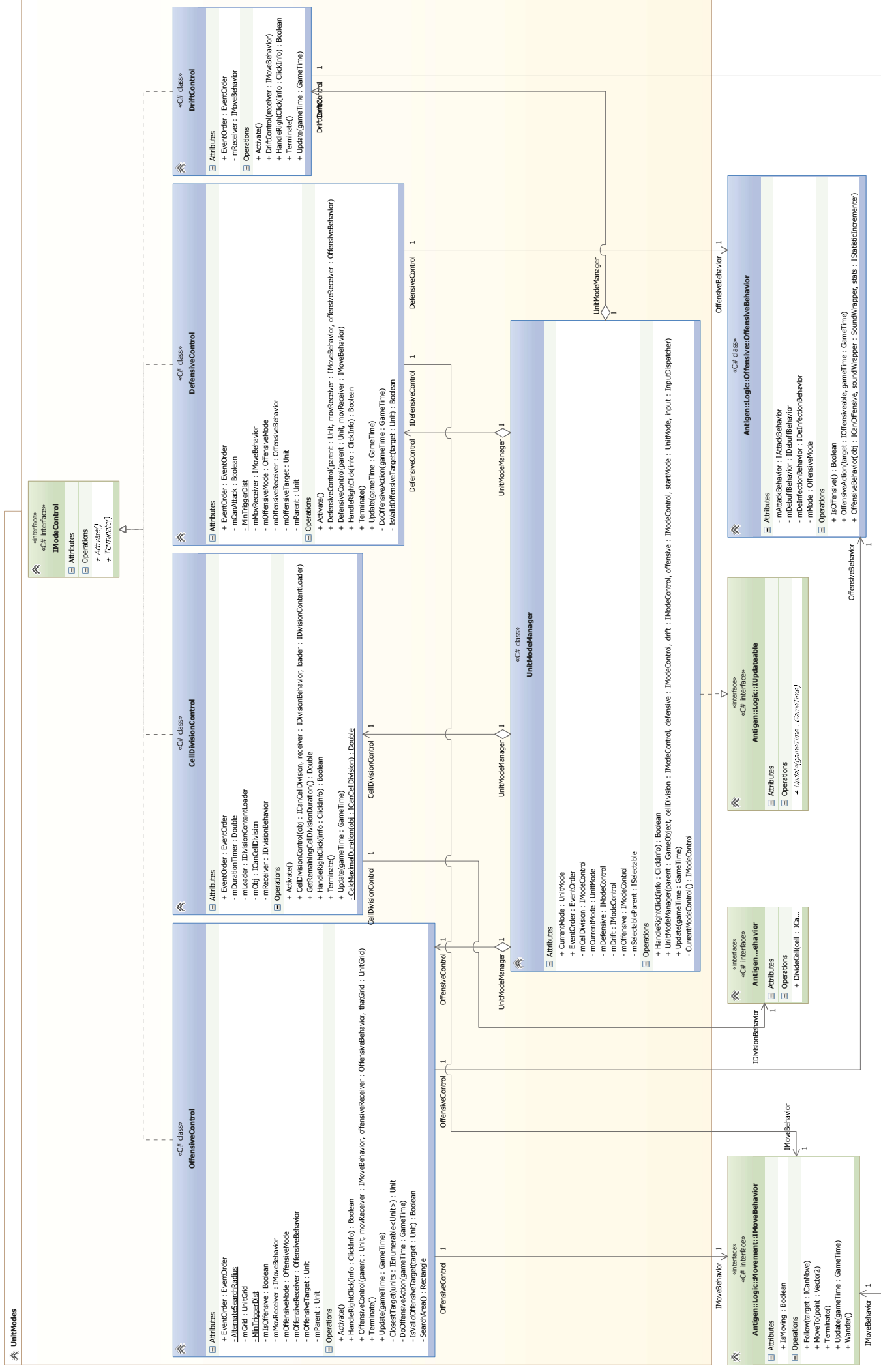














Antigen::Map::Generation

«C# class»  
**MapGenerator**

Attributes

- MainBloodStreamCount
- MainBloodStreamRadius
- MainBloodStreamResolution
- MaxRadius
- MinRadius
- MutationTypeCount
- MutationTypeMaxStrength
- MutationTypeStart
- sCircleCount : Range
- sCircleDistance : Range
- sCircleRadius : Range
- SideBloodStreamCount
- SideBloodStreamRadius
- SideBloodStreamResolution
- SideBloodStreamValueCount
- Size
- sMutationAreaCount : Range
- TileSize

Operations

- + GenerateMap(seed : Integer, spriteBatch : SpriteBatch, contentLoader : ContentLoader) : GeneratedMapData
- DrawBloodStream(bloodStream : PerlinCircle, width : Single, resolution : Integer, speed : Single, color : Color, directionAsColor : Boolean, graphicsDevice : GraphicsDevice)
- DrawDataMap(graphicsDevice : GraphicsDevice, mainBloodStream : PerlinCircle, sideBloodStreams : IEnumerable<PerlinCircle>)
- DrawMutationAreas(circles : IEnumerable<Circle>, spriteBatch : SpriteBatch, circleTexture : Texture2D, color : Color)
- GenerateMutationArea(random : Random, circleCount : Range, radius : Range, distance : Range) : IEnumerable<Circle>

«C# class»  
**PerlinCircle**

Attributes

- mPerlinLine : PerlinLine...

Operations

- + GetDirection(radian...
- + GetPoint(radians ...
- + PerlinCircle(random...

«C# class»  
**PerlinLine**

Attributes

- mLength : Double
- mRandom : Random
- mValueRange : Tuple...
- mValues : Double[\*]

Operations

- + GetGradient(positio...
- + GetValue(position : ...
- + PerlinLine(random : ...
- NewValues()

«C# class»  
**GeneratedMapData**

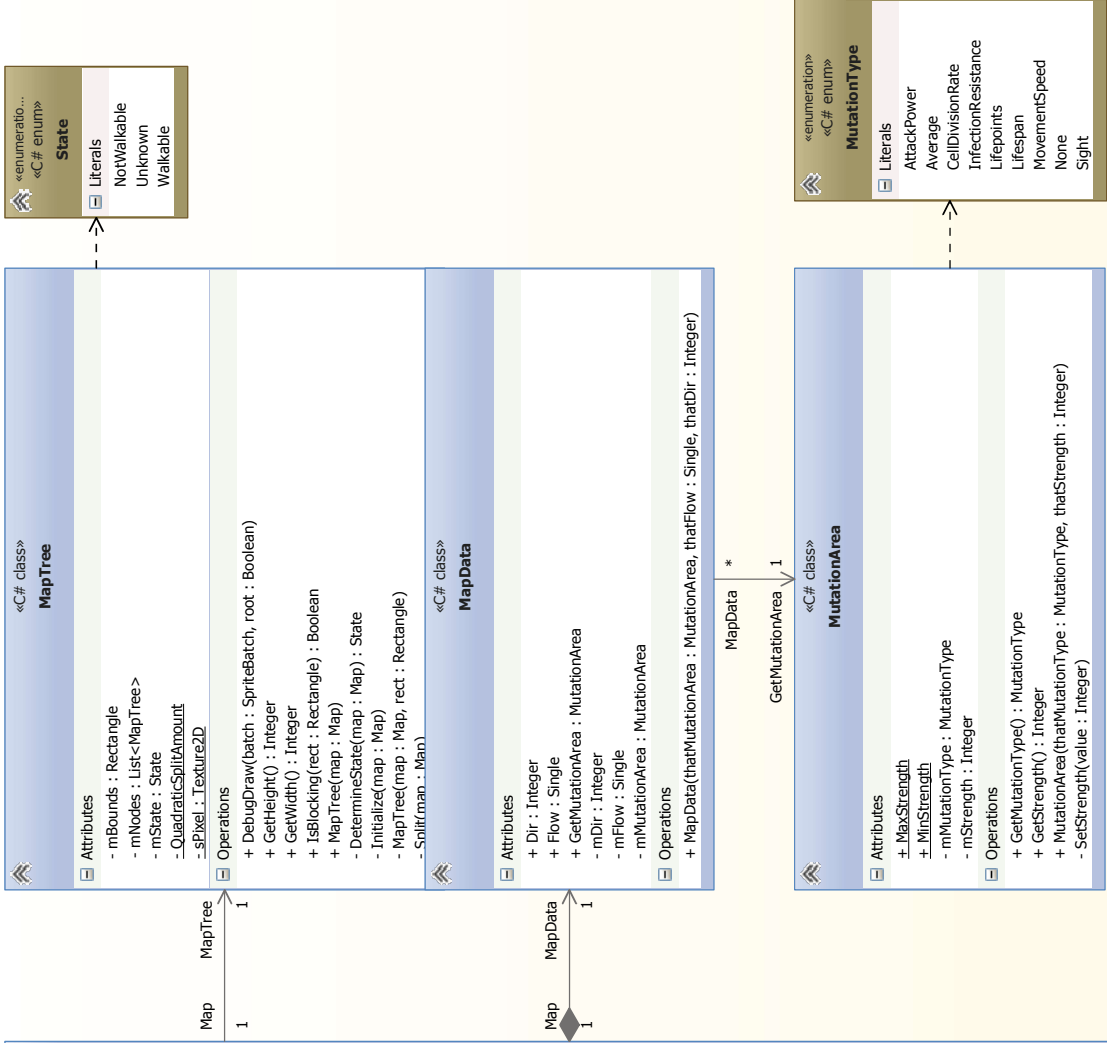
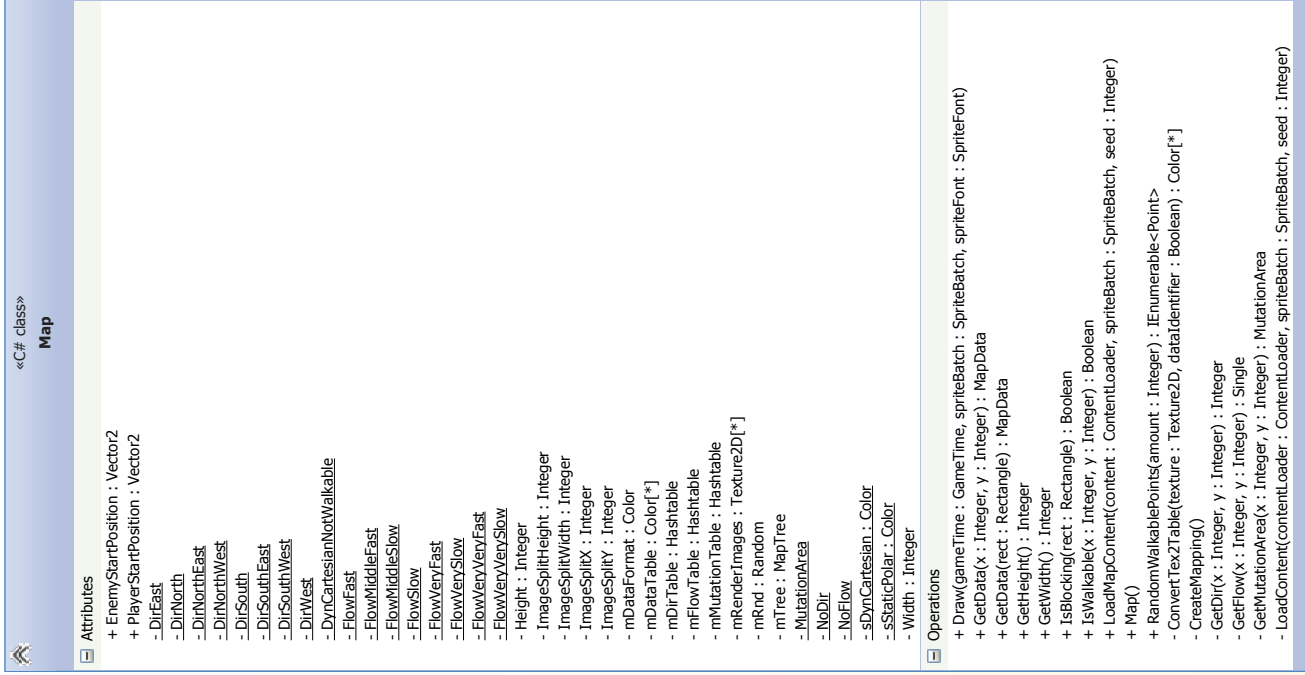
Attributes

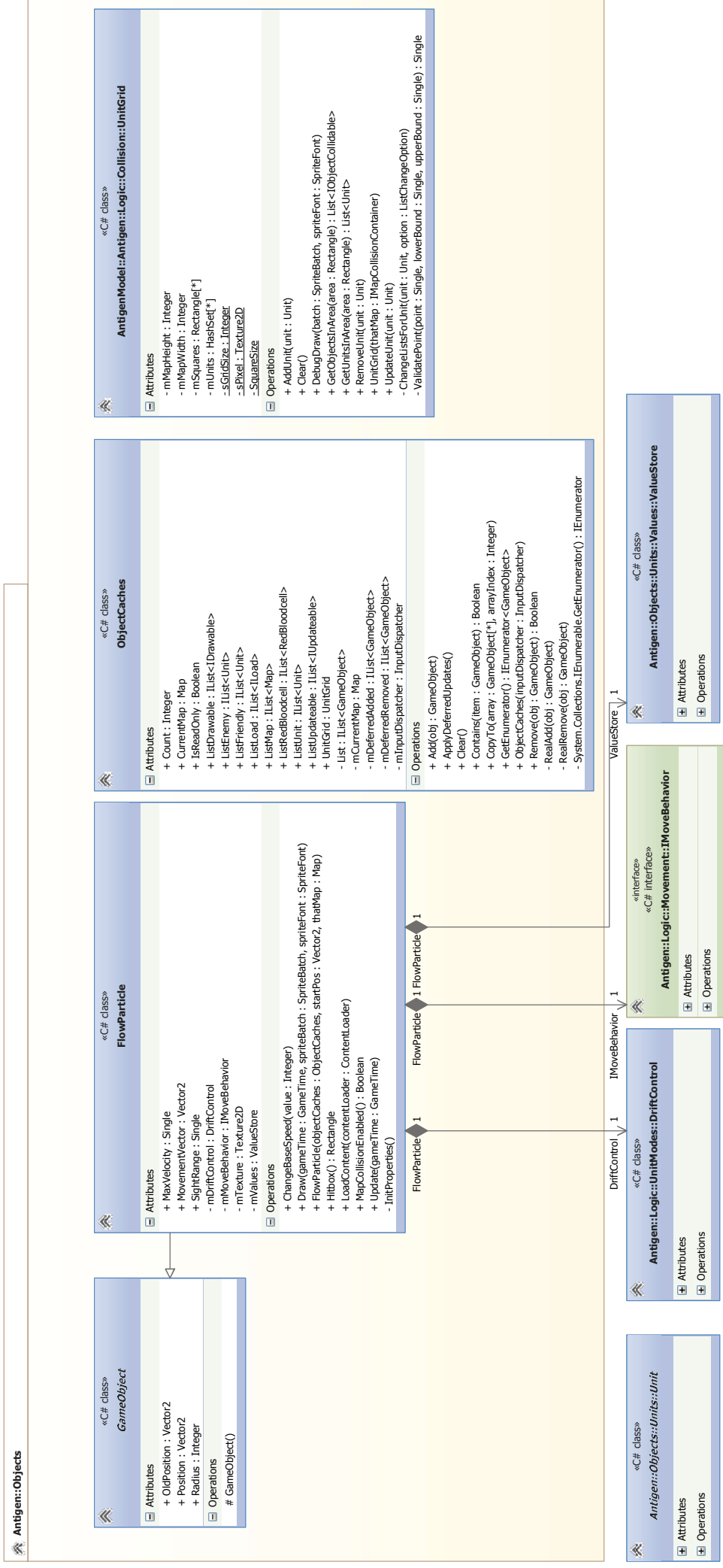
- + DataImage : Texture2D[\*]
- + EnemyStart : Vector2
- + PlayerStart : Vector2
- + RenderImage : Texture2D[\*]

Operations

- + GeneratedMapData(dataImage : Texture2D[\*], renderImage : Texture2D[\*], playerStart : Vector2, enemyStart : Vector2)

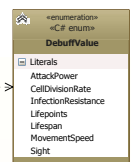
Antigen::Map







Antigen::Objects::Units::Values

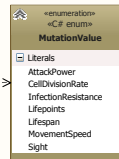
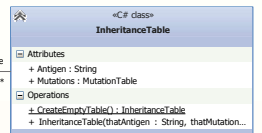


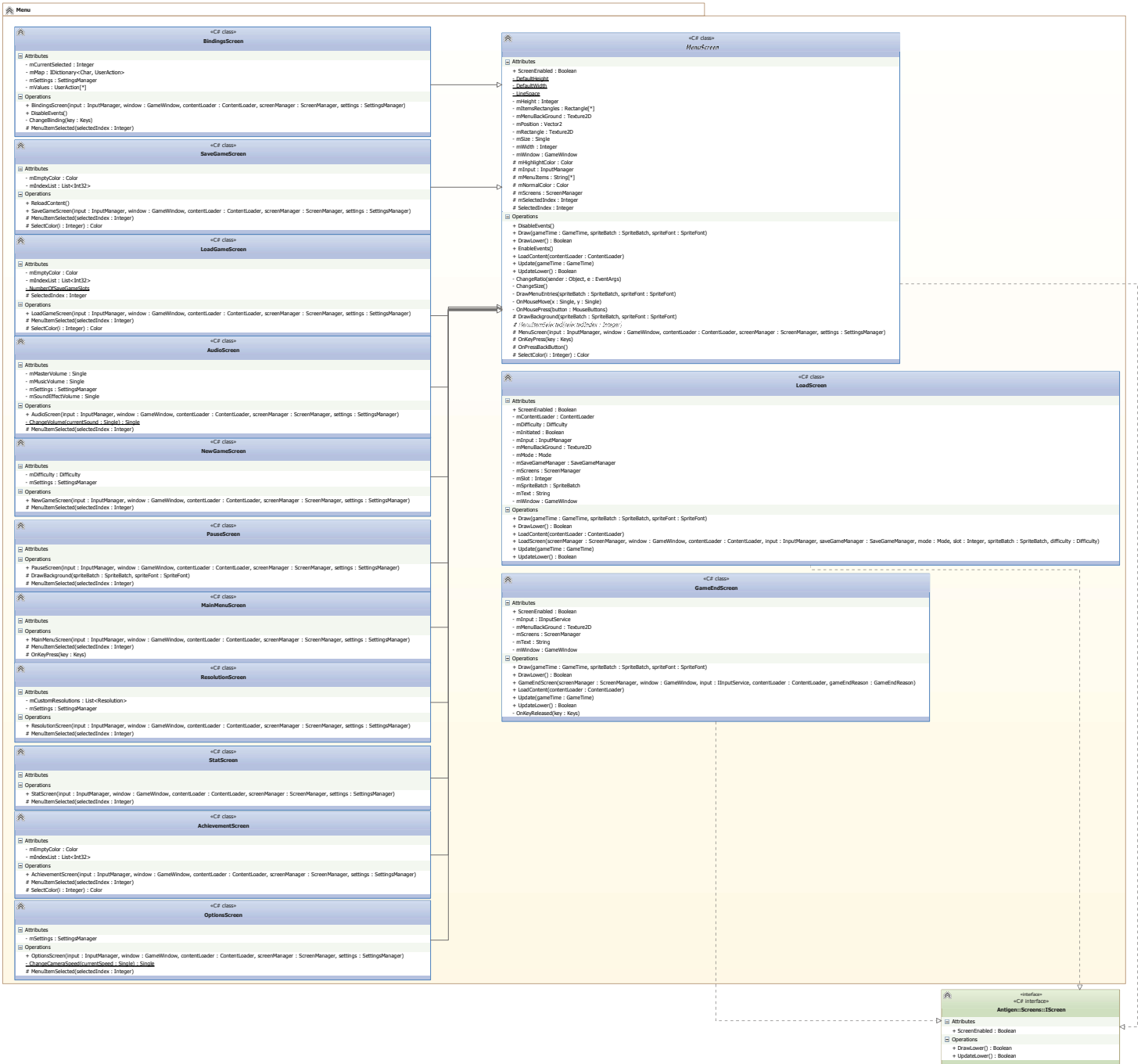
Mutations

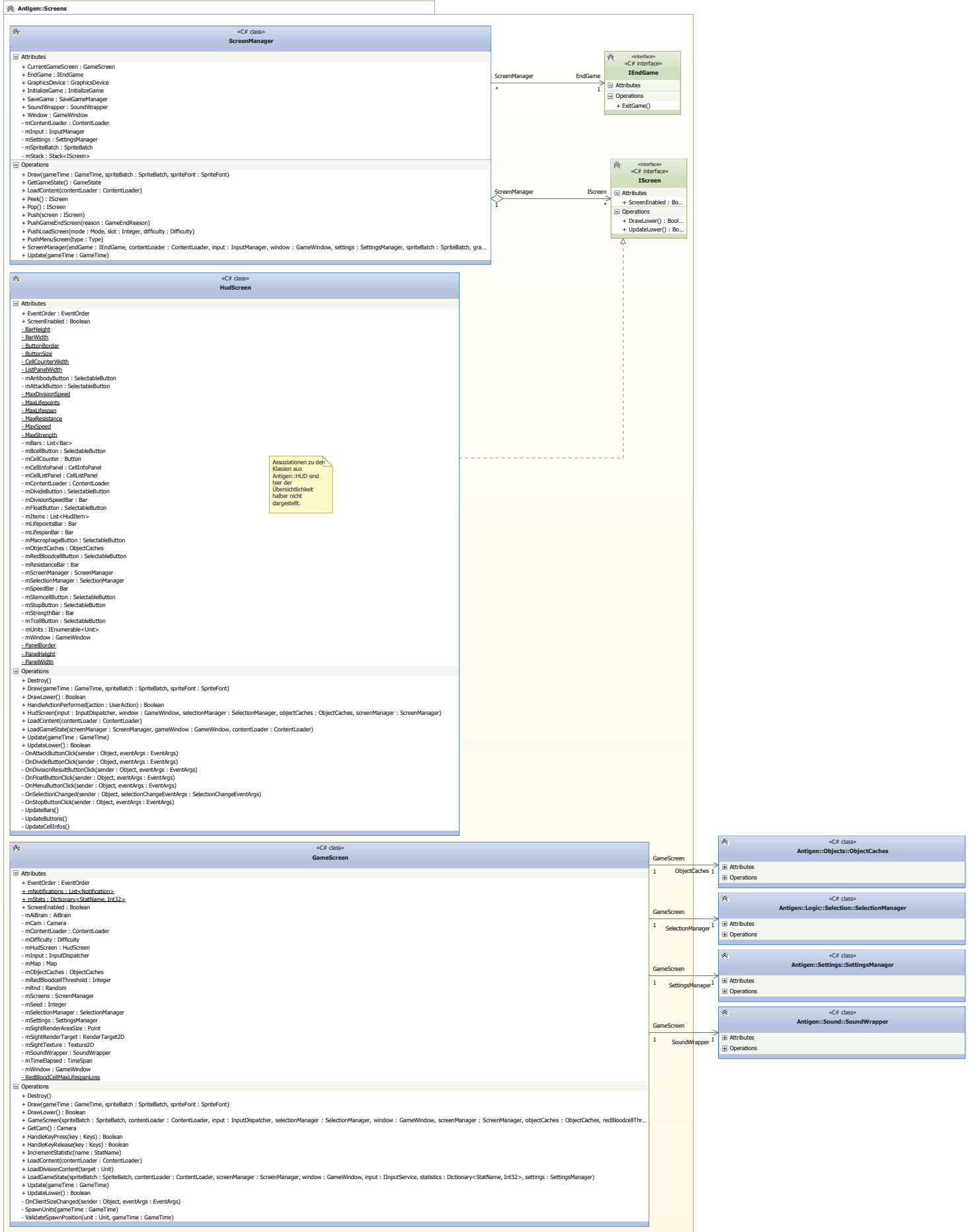
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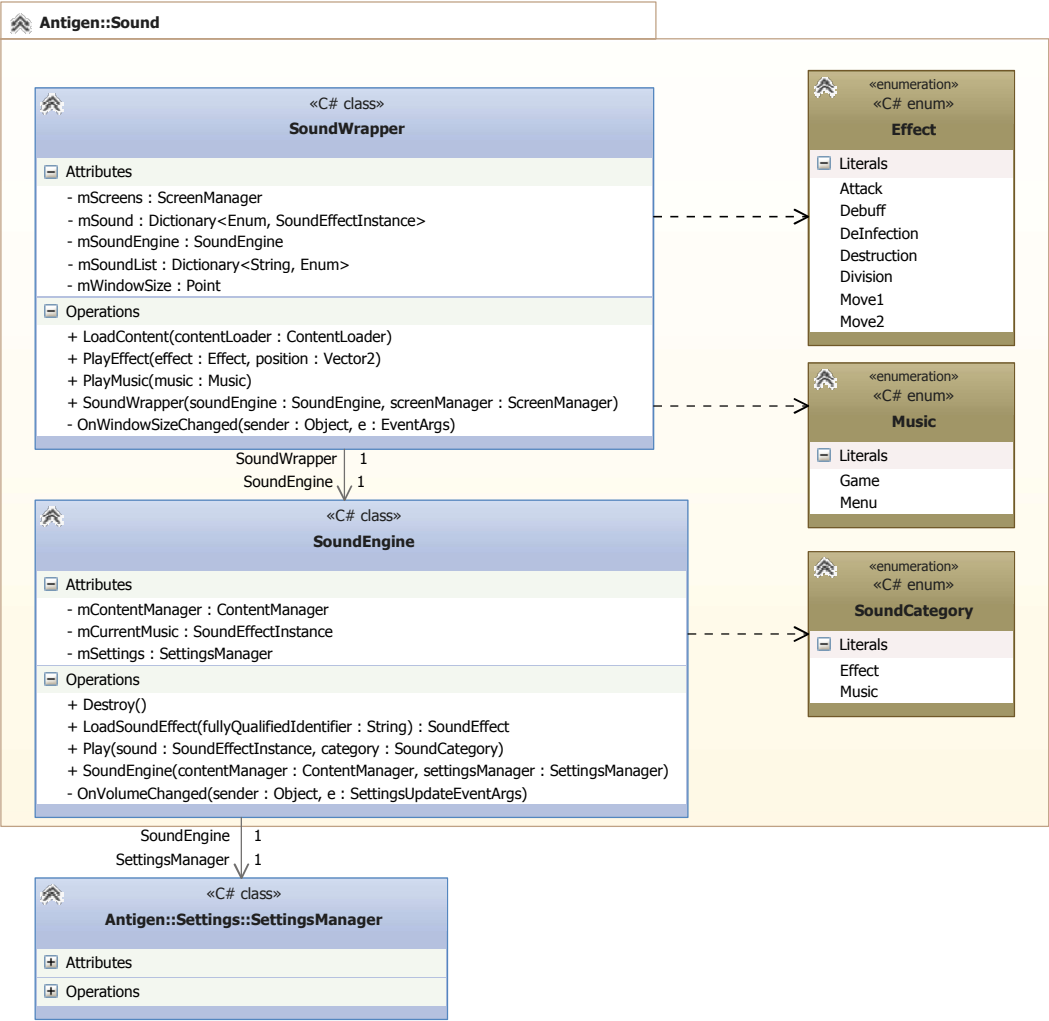
InheritanceTable

+

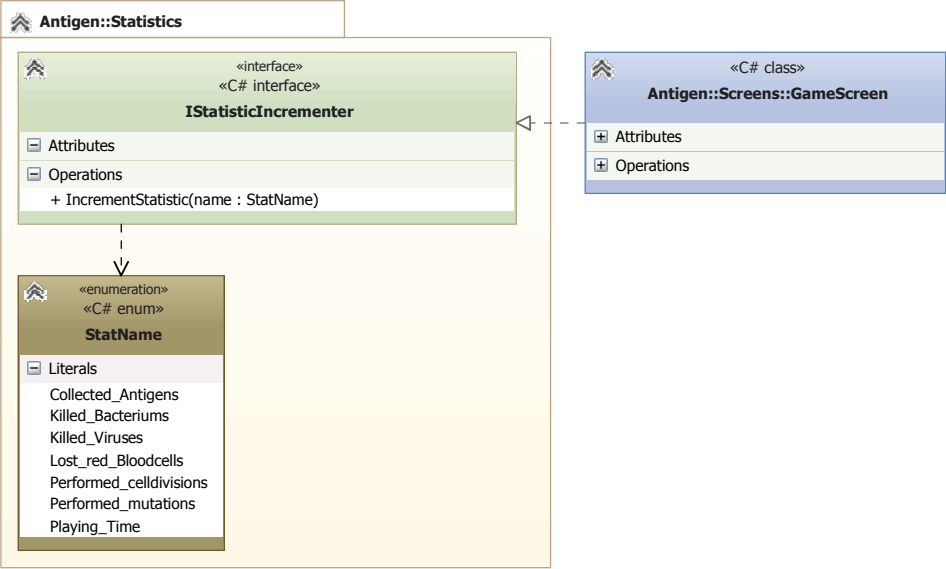


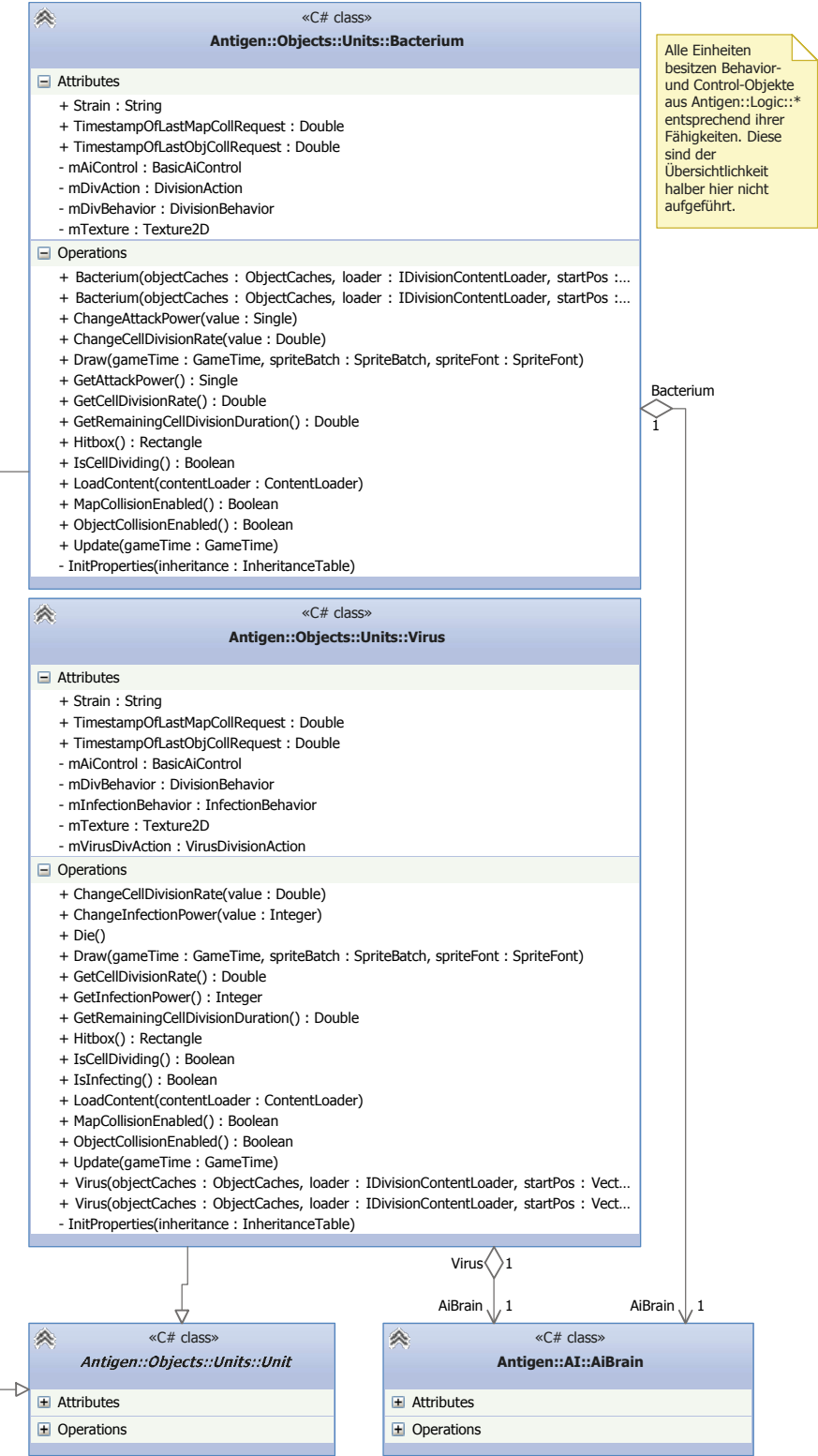


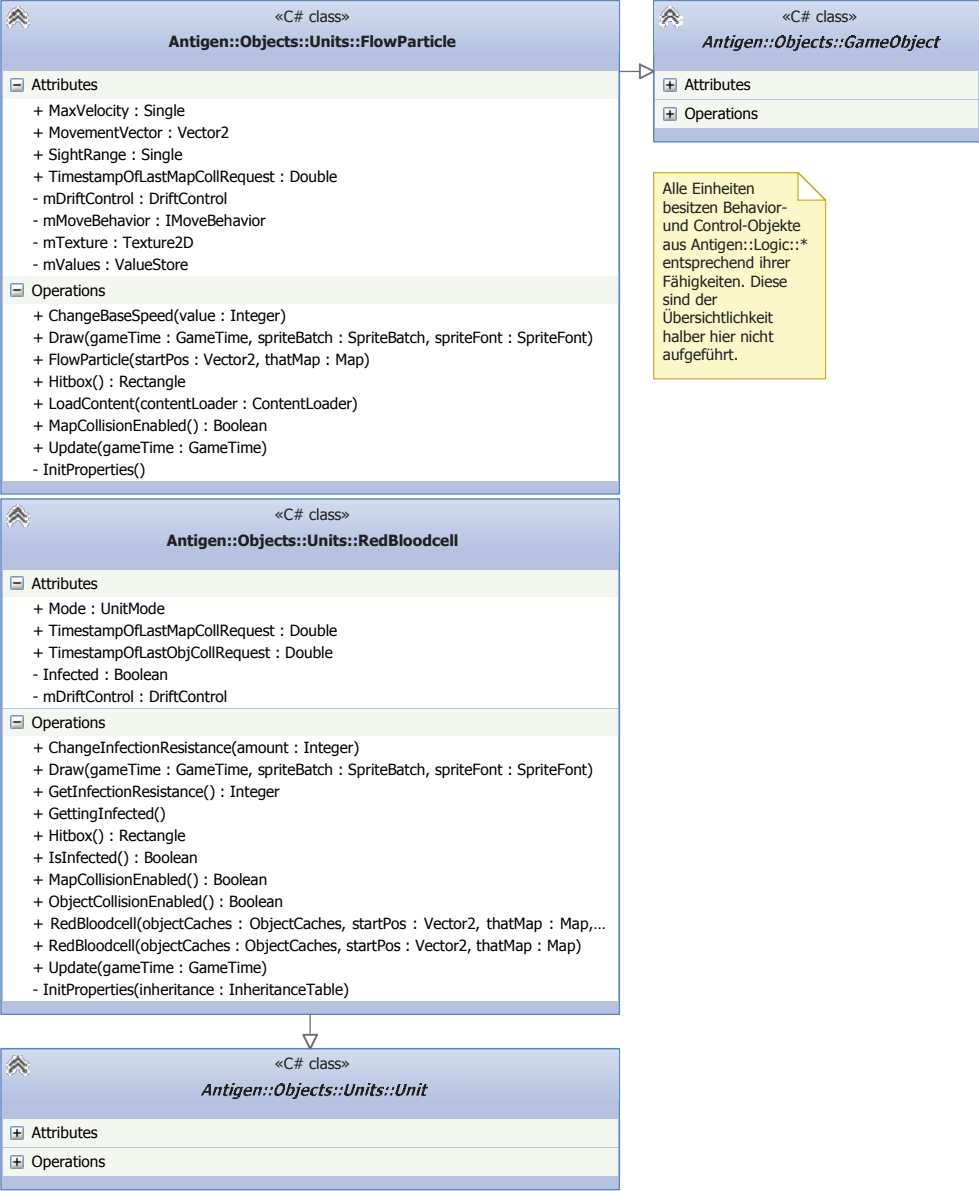












Alle Einheiten besitzen Behavior- und Control-Objekte aus Antigen::Logic::\* entsprechend ihrer Fähigkeiten. Diese sind der Übersichtlichkeit halber hier nicht aufgeführt.

