

SpaceRTS

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| | |
|--|-----------|
| 1 Namespace Index | 1 |
| 1.1 Namespace List | 1 |
| 2 Hierarchical Index | 3 |
| 2.1 Class Hierarchy | 3 |
| 3 Class Index | 5 |
| 3.1 Class List | 5 |
| 4 File Index | 7 |
| 4.1 File List | 7 |
| 5 Namespace Documentation | 9 |
| 5.1 BlackApp Namespace Reference | 9 |
| 5.2 Map Namespace Reference | 9 |
| 5.3 SpaceRts Namespace Reference | 9 |
| 5.4 SpaceRts.Channels Namespace Reference | 10 |
| 5.5 SpaceRts.Map Namespace Reference | 10 |
| 5.6 SpaceRts.Noise Namespace Reference | 10 |
| 5.7 SpaceRts.Structures Namespace Reference | 10 |
| 5.8 SpaceRts.Unit Namespace Reference | 11 |
| 5.9 SpaceRts.Util Namespace Reference | 11 |
| 5.9.1 Enumeration Type Documentation | 11 |
| 5.9.1.1 GameSpeed | 11 |
| 5.9.1.2 NumberOfPlantes | 11 |
| 5.9.1.3 NumberOfSolarSystems | 12 |
| 6 Class Documentation | 13 |
| 6.1 SpaceRts.Asteroid Class Reference | 13 |
| 6.1.1 Constructor & Destructor Documentation | 13 |
| 6.1.1.1 Asteroid() | 13 |
| 6.2 SpaceRts.Axial Class Reference | 13 |
| 6.2.1 Constructor & Destructor Documentation | 14 |
| 6.2.1.1 Axial() [1/2] | 14 |
| 6.2.1.2 Axial() [2/2] | 14 |
| 6.2.2 Member Function Documentation | 14 |
| 6.2.2.1 operator*() | 14 |
| 6.2.2.2 operator+() | 15 |
| 6.2.2.3 operator-() | 15 |
| 6.2.2.4 ToCube() | 15 |
| 6.2.3 Member Data Documentation | 15 |
| 6.2.3.1 Neighbours | 15 |
| 6.2.3.2 Q | 15 |
| 6.2.3.3 R | 15 |

| | |
|--|----|
| 6.3 SpaceRts.Structures.Base Class Reference | 16 |
| 6.3.1 Constructor & Destructor Documentation | 16 |
| 6.3.1.1 Base() | 16 |
| 6.4 SpaceRts.Unit.BasicUnit Class Reference | 16 |
| 6.4.1 Constructor & Destructor Documentation | 16 |
| 6.4.1.1 BasicUnit() | 17 |
| 6.5 SpaceRts.Camera Class Reference | 17 |
| 6.5.1 Constructor & Destructor Documentation | 17 |
| 6.5.1.1 Camera() | 17 |
| 6.5.2 Member Function Documentation | 18 |
| 6.5.2.1 Update() | 18 |
| 6.5.3 Member Data Documentation | 18 |
| 6.5.3.1 Frustum | 18 |
| 6.5.3.2 graphicsDevice | 18 |
| 6.5.3.3 lookAtVector | 18 |
| 6.5.3.4 mouseMovingCamera | 18 |
| 6.5.3.5 mouseStartCameraMovnmentPosition | 18 |
| 6.5.3.6 position | 19 |
| 6.5.3.7 SPEED | 19 |
| 6.5.3.8 timeSinceLastClick | 19 |
| 6.5.3.9 upVector | 19 |
| 6.5.4 Property Documentation | 19 |
| 6.5.4.1 ProjectionMatrix | 19 |
| 6.5.4.2 ViewMatrix | 19 |
| 6.6 SpaceRts.Map.Cell Class Reference | 19 |
| 6.6.1 Constructor & Destructor Documentation | 20 |
| 6.6.1.1 Cell() | 20 |
| 6.6.2 Member Function Documentation | 21 |
| 6.6.2.1 colorAtHeight() | 21 |
| 6.6.2.2 DrawOnTop() | 21 |
| 6.6.2.3 GenerateMesh() | 21 |
| 6.6.2.4 Intersects() | 21 |
| 6.6.3 Member Data Documentation | 21 |
| 6.6.3.1 adjacentsEven | 22 |
| 6.6.3.2 adjacentsOdd | 22 |
| 6.6.3.3 bounding | 22 |
| 6.6.3.4 calculatedCorners | 22 |
| 6.6.3.5 corners | 22 |
| 6.6.3.6 drawCenter | 23 |
| 6.6.3.7 HEIGHT_CHANGE_INSET_SCALE | 23 |
| 6.6.3.8 HEIGHT_CHANGE_NUMBER_OF_TERRACES | 23 |
| 6.6.3.9 HEIGHT_CHANGE_SLOPE_INSET | 23 |

| | |
|---|----|
| 6.6.3.10 HEIGHT_CHANGE_TERRACE_SCALE | 23 |
| 6.6.3.11 HEIGHT_SCALE | 23 |
| 6.6.3.12 innerRadius | 23 |
| 6.6.3.13 List< Color > | 24 |
| 6.6.3.14 List< Vector2 > | 24 |
| 6.6.3.15 List< Vector3 > | 24 |
| 6.6.3.16 noiseGenerator | 24 |
| 6.6.3.17 outerRadius | 24 |
| 6.6.3.18 uvCorners | 25 |
| 6.6.3.19 uvInnerRadius | 25 |
| 6.6.3.20 uvOuterRadius | 25 |
| 6.7 SpaceRts.Channels.Channel Class Reference | 25 |
| 6.7.1 Member Enumeration Documentation | 26 |
| 6.7.1.1 AuthChannel | 26 |
| 6.7.1.2 Channels | 26 |
| 6.7.1.3 GameChannel | 26 |
| 6.7.1.4 LobbyChannel | 27 |
| 6.7.1.5 StructureList | 27 |
| 6.7.2 Member Function Documentation | 27 |
| 6.7.2.1 SetSubChannel() | 27 |
| 6.7.3 Member Data Documentation | 28 |
| 6.7.3.1 CHANNEL_SIZE | 28 |
| 6.7.3.2 NUMBER_OF_CHANNELS | 28 |
| 6.7.3.3 TOTAL_CHANNELS | 28 |
| 6.8 SpaceRts.Util.ChatEntry Class Reference | 28 |
| 6.8.1 Constructor & Destructor Documentation | 28 |
| 6.8.1.1 ChatEntry() | 29 |
| 6.8.2 Member Data Documentation | 29 |
| 6.8.2.1 Message | 29 |
| 6.8.2.2 UserName | 29 |
| 6.9 SpaceRts.Map.Chunk Class Reference | 29 |
| 6.9.1 Constructor & Destructor Documentation | 30 |
| 6.9.1.1 Chunk() | 30 |
| 6.9.2 Member Function Documentation | 30 |
| 6.9.2.1 Draw() | 30 |
| 6.9.2.2 Intersect() | 31 |
| 6.9.2.3 Intersects() | 31 |
| 6.9.2.4 LoadContent() | 31 |
| 6.9.2.5 Update() | 31 |
| 6.9.3 Member Data Documentation | 31 |
| 6.9.3.1 Biomes | 31 |
| 6.9.3.2 BoundingBox | 31 |

| | |
|---|----|
| 6.9.3.3 Cells | 31 |
| 6.9.3.4 ChunkX | 32 |
| 6.9.3.5 ChunkY | 32 |
| 6.9.3.6 CornerColors | 32 |
| 6.9.3.7 effect | 32 |
| 6.9.3.8 Height | 32 |
| 6.9.3.9 HEIGHT_SIZE_FALLOFF | 32 |
| 6.9.3.10 Indices | 32 |
| 6.9.3.11 IREGULARITY_VECTOR | 33 |
| 6.9.3.12 planetType | 33 |
| 6.9.3.13 TerrainRasterizerState | 33 |
| 6.9.3.14 testEffect | 33 |
| 6.9.3.15 texture | 33 |
| 6.9.3.16 Vertices | 33 |
| 6.9.3.17 Width | 33 |
| 6.10 SpaceRts.Cube Class Reference | 34 |
| 6.10.1 Constructor & Destructor Documentation | 34 |
| 6.10.1.1 Cube() [1/3] | 34 |
| 6.10.1.2 Cube() [2/3] | 34 |
| 6.10.1.3 Cube() [3/3] | 35 |
| 6.10.2 Member Function Documentation | 35 |
| 6.10.2.1 operator*() | 35 |
| 6.10.2.2 operator+() | 35 |
| 6.10.2.3 operator-() | 35 |
| 6.10.2.4 ToAxial() | 35 |
| 6.10.2.5 ToOddQ() | 35 |
| 6.10.3 Member Data Documentation | 35 |
| 6.10.3.1 Neighbours | 36 |
| 6.10.3.2 X | 36 |
| 6.10.3.3 Y | 36 |
| 6.10.3.4 Z | 36 |
| 6.11 SpaceRts.FogOfWar Class Reference | 36 |
| 6.11.1 Constructor & Destructor Documentation | 37 |
| 6.11.1.1 FogOfWar() | 37 |
| 6.11.2 Member Function Documentation | 37 |
| 6.11.2.1 Draw() | 37 |
| 6.11.2.2 LoadContent() | 37 |
| 6.11.3 Member Data Documentation | 37 |
| 6.11.3.1 effect | 38 |
| 6.11.3.2 Height | 38 |
| 6.11.3.3 Noise | 38 |
| 6.11.3.4 TILE_DEPTH | 38 |

| | |
|---|----|
| 6.11.3.5 TILE_WIDTH | 38 |
| 6.11.3.6 Vertecies | 38 |
| 6.11.3.7 Width | 38 |
| 6.11.3.8 x | 39 |
| 6.12 SpaceRts.Util.FrameCounter Class Reference | 39 |
| 6.12.1 Constructor & Destructor Documentation | 39 |
| 6.12.1.1 FrameCounter() | 39 |
| 6.12.2 Member Function Documentation | 39 |
| 6.12.2.1 Update() | 40 |
| 6.12.3 Member Data Documentation | 40 |
| 6.12.3.1 _sampleBuffer | 40 |
| 6.12.3.2 MAXIMUM_SAMPLES | 40 |
| 6.12.4 Property Documentation | 40 |
| 6.12.4.1 AverageFramesPerSecond | 40 |
| 6.12.4.2 CurrentFramesPerSecond | 40 |
| 6.12.4.3 TotalFrames | 40 |
| 6.12.4.4 TotalSeconds | 41 |
| 6.13 BlackApp.Game1 Class Reference | 41 |
| 6.13.1 Detailed Description | 41 |
| 6.13.2 Constructor & Destructor Documentation | 42 |
| 6.13.2.1 Game1() | 42 |
| 6.13.3 Member Function Documentation | 42 |
| 6.13.3.1 Draw() | 42 |
| 6.13.3.2 Initialize() | 42 |
| 6.13.3.3 LoadContent() | 42 |
| 6.13.3.4 Update() | 42 |
| 6.13.4 Member Data Documentation | 43 |
| 6.13.4.1 graphics | 43 |
| 6.13.4.2 spriteBatch | 43 |
| 6.14 SpaceRts.Util.GameOptions Class Reference | 43 |
| 6.14.1 Constructor & Destructor Documentation | 43 |
| 6.14.1.1 GameOptions() | 43 |
| 6.14.2 Member Data Documentation | 44 |
| 6.14.2.1 GameSpeed | 44 |
| 6.14.2.2 NumberOfPlantes | 44 |
| 6.14.2.3 NumberOfSolarSystems | 44 |
| 6.15 SpaceRts.Global Class Reference | 44 |
| 6.15.1 Member Data Documentation | 44 |
| 6.15.1.1 Camera | 44 |
| 6.15.1.2 ClickRay | 45 |
| 6.15.1.3 KeyboardState | 45 |
| 6.15.1.4 MouseState | 45 |

| | |
|--|----|
| 6.15.1.5 SelectedPlanet | 45 |
| 6.15.1.6 SelectedSolarSystem | 45 |
| 6.16 SpaceRts.Util.HexagonalBounding Class Reference | 45 |
| 6.16.1 Constructor & Destructor Documentation | 46 |
| 6.16.1.1 HexagonalBounding() | 46 |
| 6.16.2 Member Function Documentation | 46 |
| 6.16.2.1 Intersects() | 46 |
| 6.16.3 Member Data Documentation | 46 |
| 6.16.3.1 BoundingBoxes | 46 |
| 6.17 Map.Hills Class Reference | 46 |
| 6.17.1 Constructor & Destructor Documentation | 47 |
| 6.17.1.1 Hills() [1/2] | 47 |
| 6.17.1.2 Hills() [2/2] | 47 |
| 6.17.2 Member Function Documentation | 47 |
| 6.17.2.1 GenerateAtPosition() | 47 |
| 6.18 SpaceRts.Util.LobbyData Class Reference | 47 |
| 6.18.1 Constructor & Destructor Documentation | 48 |
| 6.18.1.1 LobbyData() | 48 |
| 6.18.2 Member Data Documentation | 48 |
| 6.18.2.1 Chat | 48 |
| 6.18.2.2 ID | 48 |
| 6.18.2.3 Members | 48 |
| 6.18.2.4 Owner | 48 |
| 6.19 SpaceRts.Map.Map Class Reference | 49 |
| 6.19.1 Constructor & Destructor Documentation | 49 |
| 6.19.1.1 Map() | 49 |
| 6.19.2 Member Function Documentation | 50 |
| 6.19.2.1 CellAtPosition() [1/2] | 50 |
| 6.19.2.2 CellAtPosition() [2/2] | 50 |
| 6.19.2.3 Draw() | 50 |
| 6.19.2.4 Intersect() | 50 |
| 6.19.2.5 Update() | 50 |
| 6.19.3 Member Data Documentation | 50 |
| 6.19.3.1 Chunk | 51 |
| 6.19.3.2 ChunkHeight | 51 |
| 6.19.3.3 Chunks | 51 |
| 6.19.3.4 ChunkWidth | 51 |
| 6.19.3.5 Height | 51 |
| 6.19.3.6 Width | 51 |
| 6.20 SpaceRts.Util.MathExtended Class Reference | 51 |
| 6.20.1 Member Function Documentation | 52 |
| 6.20.1.1 GradientIndex() | 52 |

| | |
|---|----|
| 6.21 SpaceRts.Structures.Mine Class Reference | 52 |
| 6.21.1 Constructor & Destructor Documentation | 52 |
| 6.21.1.1 Mine() | 52 |
| 6.22 SpaceRts.Models Class Reference | 53 |
| 6.22.1 Member Function Documentation | 53 |
| 6.22.1.1 Load() | 53 |
| 6.22.2 Member Data Documentation | 53 |
| 6.22.2.1 Base | 53 |
| 6.22.2.2 Ores | 53 |
| 6.23 Map.Mountains Class Reference | 53 |
| 6.23.1 Constructor & Destructor Documentation | 54 |
| 6.23.1.1 Mountains() [1/2] | 54 |
| 6.23.1.2 Mountains() [2/2] | 54 |
| 6.23.2 Member Function Documentation | 54 |
| 6.23.2.1 GenerateAtPosition() | 54 |
| 6.24 SpaceRts.Noise.Noise2d Class Reference | 55 |
| 6.24.1 Constructor & Destructor Documentation | 55 |
| 6.24.1.1 Noise2d() | 55 |
| 6.24.2 Member Function Documentation | 55 |
| 6.24.2.1 CalculateGradients() | 55 |
| 6.24.2.2 CalculatePermutation() | 56 |
| 6.24.2.3 Drop() | 56 |
| 6.24.2.4 GenerateNoiseMap() | 56 |
| 6.24.2.5 Noise() | 56 |
| 6.24.2.6 Q() | 56 |
| 6.24.2.7 Reseed() | 56 |
| 6.24.3 Member Data Documentation | 56 |
| 6.24.3.1 _gradients | 57 |
| 6.24.3.2 _permutation | 57 |
| 6.24.3.3 Random | 57 |
| 6.25 Map.NoiseGenerator Class Reference | 57 |
| 6.25.1 Member Enumeration Documentation | 58 |
| 6.25.1.1 BiomeType | 59 |
| 6.25.2 Constructor & Destructor Documentation | 59 |
| 6.25.2.1 NoiseGenerator() | 59 |
| 6.25.3 Member Function Documentation | 59 |
| 6.25.3.1 BiomeAtIndex() | 60 |
| 6.25.3.2 BiomeAtLocation() | 60 |
| 6.25.3.3 GenerateAtPosition() [1/2] | 60 |
| 6.25.3.4 GenerateAtPosition() [2/2] | 60 |
| 6.25.3.5 GenerateIrregularityAtPosition() | 60 |
| 6.25.3.6 LoadTextures() | 60 |

| | |
|--|----|
| 6.25.3.7 TryGenerateAtIndex() | 61 |
| 6.25.4 Member Data Documentation | 61 |
| 6.25.4.1 amplitudesList | 61 |
| 6.25.4.2 biomeNoiseMap | 61 |
| 6.25.4.3 biomeValues | 61 |
| 6.25.4.4 ConstructedBiomeValues | 62 |
| 6.25.4.5 float | 62 |
| 6.25.4.6 frequencyList | 62 |
| 6.25.4.7 Height | 62 |
| 6.25.4.8 IREGUALRITY_FREQUENCY | 62 |
| 6.25.4.9 IREGULARITY_AMPLITUDE | 62 |
| 6.25.4.10 Max | 62 |
| 6.25.4.11 maxMountainRadiusList | 63 |
| 6.25.4.12 Min | 63 |
| 6.25.4.13 minMountainRadiusList | 63 |
| 6.25.4.14 minMuntainDistanceList | 63 |
| 6.25.4.15 noiseGenerators | 64 |
| 6.25.4.16 noiseIregularityMap | 64 |
| 6.25.4.17 noiseMap | 64 |
| 6.25.4.18 PlanetType | 64 |
| 6.25.4.19 Seed | 64 |
| 6.25.4.20 SubNoiseGenerators | 64 |
| 6.25.4.21 Textures | 64 |
| 6.25.4.22 Width | 65 |
| 6.26 SpaceRts.Util.ObjectSerialization Class Reference | 65 |
| 6.26.1 Member Function Documentation | 65 |
| 6.26.1.1 ByteArrayToObject() | 65 |
| 6.26.1.2 ObjectToByteArray() | 65 |
| 6.27 SpaceRts.OddQ Class Reference | 65 |
| 6.27.1 Constructor & Destructor Documentation | 66 |
| 6.27.1.1 OddQ() [1/2] | 66 |
| 6.27.1.2 OddQ() [2/2] | 66 |
| 6.27.2 Member Data Documentation | 66 |
| 6.27.2.1 C | 66 |
| 6.27.2.2 R | 66 |
| 6.28 SpaceRts.Structures.Ore Class Reference | 67 |
| 6.28.1 Member Enumeration Documentation | 67 |
| 6.28.1.1 OreTypes | 67 |
| 6.28.2 Constructor & Destructor Documentation | 67 |
| 6.28.2.1 Ore() | 68 |
| 6.28.3 Member Data Documentation | 68 |
| 6.28.3.1 OreNames | 68 |

| | |
|---|----|
| 6.28.3.2 OreType | 68 |
| 6.29 SpaceRts.Planet Class Reference | 68 |
| 6.29.1 Member Enumeration Documentation | 69 |
| 6.29.1.1 PlanetSizes | 69 |
| 6.29.1.2 PlanetTypes | 70 |
| 6.29.2 Constructor & Destructor Documentation | 70 |
| 6.29.2.1 Planet() | 70 |
| 6.29.3 Member Function Documentation | 70 |
| 6.29.3.1 Draw() | 70 |
| 6.29.3.2 FindGradientValueIndex() | 70 |
| 6.29.3.3 GetCellAtPosition() [1/2] | 71 |
| 6.29.3.4 GetCellAtPosition() [2/2] | 71 |
| 6.29.3.5 LoadContent() | 71 |
| 6.29.3.6 SelectedUpdate() | 71 |
| 6.29.3.7 Update() | 71 |
| 6.29.4 Member Data Documentation | 71 |
| 6.29.4.1 CellsHeight | 71 |
| 6.29.4.2 CellsWidth | 71 |
| 6.29.4.3 CHUNK_HEIGHT | 72 |
| 6.29.4.4 CHUNK_WIDTH | 72 |
| 6.29.4.5 ChunksHeight | 72 |
| 6.29.4.6 ChunksWidth | 72 |
| 6.29.4.7 effect | 72 |
| 6.29.4.8 GradientColors | 72 |
| 6.29.4.9 GradientValues | 72 |
| 6.29.4.10 Id | 73 |
| 6.29.4.11 Map | 73 |
| 6.29.4.12 noiseGenerator | 73 |
| 6.29.4.13 PlanetSize | 73 |
| 6.29.4.14 PlanetSizeDimensions | 73 |
| 6.29.4.15 PlanetType | 73 |
| 6.29.4.16 Structures | 73 |
| 6.30 SpaceRts.Player Class Reference | 74 |
| 6.30.1 Member Function Documentation | 74 |
| 6.30.1.1 pay() | 74 |
| 6.30.2 Member Data Documentation | 74 |
| 6.30.2.1 money | 74 |
| 6.30.2.2 resource | 74 |
| 6.31 SpaceRts.Noise.PoissonSample Class Reference | 74 |
| 6.31.1 Member Function Documentation | 75 |
| 6.31.1.1 GeneratePoints() | 75 |
| 6.31.1.2 IsValid() | 75 |

| | |
|--|----|
| 6.32 SpaceRts.SolarSystem Class Reference | 75 |
| 6.32.1 Constructor & Destructor Documentation | 75 |
| 6.32.1.1 SolarSystem() | 76 |
| 6.32.2 Member Function Documentation | 76 |
| 6.32.2.1 Draw() | 76 |
| 6.32.2.2 Update() | 76 |
| 6.32.3 Member Data Documentation | 76 |
| 6.32.3.1 Connections | 76 |
| 6.32.3.2 Planets | 76 |
| 6.32.3.3 Position | 77 |
| 6.33 SpaceRts.Space Class Reference | 77 |
| 6.33.1 Constructor & Destructor Documentation | 77 |
| 6.33.1.1 Space() | 78 |
| 6.33.2 Member Function Documentation | 78 |
| 6.33.2.1 Draw() | 78 |
| 6.33.2.2 GenerateSolarSystems() | 78 |
| 6.33.2.3 Update() | 78 |
| 6.33.3 Member Data Documentation | 78 |
| 6.33.3.1 ChunksDrawn | 78 |
| 6.33.3.2 FogOfWar | 79 |
| 6.33.3.3 GameOptions | 79 |
| 6.33.3.4 NumberOfPlayers | 79 |
| 6.33.3.5 Random | 79 |
| 6.33.3.6 SolarSystems | 79 |
| 6.33.3.7 spriteFont | 79 |
| 6.33.3.8 temp | 79 |
| 6.34 SpaceRts.SpaceUnit Class Reference | 80 |
| 6.34.1 Constructor & Destructor Documentation | 80 |
| 6.34.1.1 SpaceUnit() | 80 |
| 6.35 SpaceRts.Structures.Structure Class Reference | 80 |
| 6.35.1 Member Enumeration Documentation | 81 |
| 6.35.1.1 StructureTypes | 81 |
| 6.35.2 Constructor & Destructor Documentation | 81 |
| 6.35.2.1 Structure() [1/2] | 81 |
| 6.35.2.2 Structure() [2/2] | 81 |
| 6.35.3 Member Function Documentation | 81 |
| 6.35.3.1 Build() | 82 |
| 6.35.3.2 Draw() | 82 |
| 6.35.3.3 Production() | 82 |
| 6.35.3.4 Update() | 82 |
| 6.35.4 Member Data Documentation | 82 |
| 6.35.4.1 BoundingBox | 82 |

| | |
|---|-----------|
| 6.35.4.2 Cell | 82 |
| 6.35.4.3 Cost | 82 |
| 6.35.4.4 Model | 83 |
| 6.35.4.5 Player | 83 |
| 6.35.4.6 Prod | 83 |
| 6.35.4.7 StructureType | 83 |
| 6.36 Map.SubNoiseGenerator Class Reference | 83 |
| 6.36.1 Constructor & Destructor Documentation | 84 |
| 6.36.1.1 SubNoiseGenerator() | 84 |
| 6.36.2 Member Function Documentation | 84 |
| 6.36.2.1 GenerateAtPosition() | 84 |
| 6.36.3 Member Data Documentation | 84 |
| 6.36.3.1 Height | 84 |
| 6.36.3.2 noiseMap | 84 |
| 6.36.3.3 Random | 85 |
| 6.36.3.4 Seed | 85 |
| 6.36.3.5 Width | 85 |
| 6.37 SpaceRts.Unit.Unit Class Reference | 85 |
| 6.37.1 Constructor & Destructor Documentation | 85 |
| 6.37.1.1 Unit() | 85 |
| 6.38 Map.VertexColorGenerator Class Reference | 85 |
| 6.39 SpaceRts.Map.VertexPostionGenerator Class Reference | 85 |
| 7 File Documentation | 87 |
| 7.1 Asteroid.cs File Reference | 87 |
| 7.2 Camera.cs File Reference | 87 |
| 7.3 Channels.cs File Reference | 87 |
| 7.4 Cordinate/Cordinate.cs File Reference | 88 |
| 7.5 FogOfWar.cs File Reference | 88 |
| 7.6 Game1.cs File Reference | 88 |
| 7.7 Global.cs File Reference | 88 |
| 7.8 Map/Cell.cs File Reference | 89 |
| 7.9 Map/Chunk.cs File Reference | 89 |
| 7.10 Map/Map.cs File Reference | 89 |
| 7.11 Map/NoiseGenerator.cs File Reference | 89 |
| 7.12 Map/SubNoiseGenerator.cs File Reference | 90 |
| 7.13 Map/VertexColorGenerator.cs File Reference | 90 |
| 7.14 Map/VertexPostionGenerator.cs File Reference | 90 |
| 7.15 Noise/Noise2d.cs File Reference | 90 |
| 7.16 Noise/PoissonSample.cs File Reference | 91 |
| 7.17 obj/Debug/netstandard2.0/SpaceRts.AssemblyInfo.cs File Reference | 91 |
| 7.18 Planet.cs File Reference | 91 |

| | |
|---|-----------|
| 7.19 PlanetChunk.cs File Reference | 91 |
| 7.20 Player.cs File Reference | 91 |
| 7.21 SolarSystem.cs File Reference | 91 |
| 7.22 Space.cs File Reference | 92 |
| 7.23 SpaceUnit.cs File Reference | 92 |
| 7.24 Structures/Base.cs File Reference | 92 |
| 7.25 Structures/Mine.cs File Reference | 92 |
| 7.26 Structures/Ore.cs File Reference | 93 |
| 7.27 Structures/Structure.cs File Reference | 93 |
| 7.28 Unit.cs File Reference | 93 |
| 7.29 Units/BasicUnit.cs File Reference | 93 |
| 7.30 Util/FrameCounter.cs File Reference | 94 |
| 7.31 Util/GameOptions.cs File Reference | 94 |
| 7.32 Util/HexagonalBounding.cs File Reference | 94 |
| 7.33 Util/Lobby.cs File Reference | 95 |
| 7.34 Util/MathExtended.cs File Reference | 95 |
| 7.35 Util/ObjectSerialization.cs File Reference | 95 |
| Index | 97 |

Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all namespaces with brief descriptions:

| | |
|-------------------------------------|----|
| BlackApp | 9 |
| Map | 9 |
| SpaceRts | 9 |
| SpaceRts.Channels | 10 |
| SpaceRts.Map | 10 |
| SpaceRts.Noise | 10 |
| SpaceRts.Structures | 10 |
| SpaceRts.Unit | 11 |
| SpaceRts.Util | 11 |

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

| | |
|---|----|
| SpaceRts.Asteroid | 13 |
| SpaceRts.Axial | 13 |
| SpaceRts.Unit.BasicUnit | 16 |
| SpaceRts.Camera | 17 |
| SpaceRts.Map.Cell | 19 |
| SpaceRts.Channels.Channel | 25 |
| SpaceRts.Util.ChatEntry | 28 |
| SpaceRts.Map.Chunk | 29 |
| SpaceRts.Cube | 34 |
| SpaceRts.FogOfWar | 36 |
| SpaceRts.Util.FrameCounter | 39 |
| Game | |
| BlackApp.Game1 | 41 |
| SpaceRts.Util.GameOptions | 43 |
| SpaceRts.Global | 44 |
| SpaceRts.Util.HexagonalBounding | 45 |
| SpaceRts.Util.LobbyData | 47 |
| SpaceRts.Map.Map | 49 |
| SpaceRts.Util.MathExtended | 51 |
| SpaceRts.Structures.Mine | 52 |
| SpaceRts.Models | 53 |
| SpaceRts.Noise.Noise2d | 55 |
| Map.NoiseGenerator | 57 |
| SpaceRts.Util.ObjectSerialization | 65 |
| SpaceRts.OddQ | 65 |
| SpaceRts.Planet | 68 |
| SpaceRts.Player | 74 |
| SpaceRts.Noise.PoissonSample | 74 |
| SpaceRts.SolarSystem | 75 |
| SpaceRts.Space | 77 |
| SpaceRts.SpaceUnit | 80 |
| SpaceRts.Structures.Structure | 80 |
| SpaceRts.Structures.Base | 16 |
| SpaceRts.Structures.Ore | 67 |
| Map.SubNoiseGenerator | 83 |

| | |
|---|----|
| Map.Hills | 46 |
| Map.Mountains | 53 |
| SpaceRts.Unit.Unit | 85 |
| Map.VertexColorGenerator | 85 |
| SpaceRts.Map.VertexPostionGenerator | 85 |

Chapter 3

Class Index

3.1 Class List

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

| | |
|-------------------------------------|----|
| SpaceRts.Asteroid | 13 |
| SpaceRts.Axial | 13 |
| SpaceRts.Structures.Base | 16 |
| SpaceRts.Unit.BasicUnit | 16 |
| SpaceRts.Camera | 17 |
| SpaceRts.Map.Cell | 19 |
| SpaceRts.Channels.Channel | 25 |
| SpaceRts.Util.ChatEntry | 28 |
| SpaceRts.Map.Chunk | 29 |
| SpaceRts.Cube | 34 |
| SpaceRts.FogOfWar | 36 |
| SpaceRts.Util.FrameCounter | 39 |
| BlackApp.Game1 | |
| This is the main type for your game | 41 |
| SpaceRts.Util.GameOptions | 43 |
| SpaceRts.Global | 44 |
| SpaceRts.Util.HexagonalBounding | 45 |
| Map.Hills | 46 |
| SpaceRts.Util.LobbyData | 47 |
| SpaceRts.Map.Map | 49 |
| SpaceRts.Util.MathExtended | 51 |
| SpaceRts.Structures.Mine | 52 |
| SpaceRts.Models | 53 |
| Map.Mountains | 53 |
| SpaceRts.Noise.Noise2d | 55 |
| Map.NoiseGenerator | 57 |
| SpaceRts.Util.ObjectSerialization | 65 |
| SpaceRts.OddQ | 65 |
| SpaceRts.Structures.Ore | 67 |
| SpaceRts.Planet | 68 |
| SpaceRts.Player | 74 |
| SpaceRts.Noise.PoissonSample | 74 |
| SpaceRts.SolarSystem | 75 |
| SpaceRts.Space | 77 |
| SpaceRts.SpaceUnit | 80 |

| | |
|---|----|
| SpaceRts.Structures.Structure | 80 |
| Map.SubNoiseGenerator | 83 |
| SpaceRts.Unit.Unit | 85 |
| Map.VertexColorGenerator | 85 |
| SpaceRts.Map.VertexPostionGenerator | 85 |

Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

| | |
|---|----|
| Asteroid.cs | 87 |
| Camera.cs | 87 |
| Channels.cs | 87 |
| FogOfWar.cs | 88 |
| Game1.cs | 88 |
| Global.cs | 88 |
| Planet.cs | 91 |
| PlanetChunk.cs | 91 |
| Player.cs | 91 |
| SolarSystem.cs | 91 |
| Space.cs | 92 |
| SpaceUnit.cs | 92 |
| Unit.cs | 93 |
| Cordinate/Cordinate.cs | 88 |
| Map/Cell.cs | 89 |
| Map/Chunk.cs | 89 |
| Map/Map.cs | 89 |
| Map/NoiseGenerator.cs | 89 |
| Map/SubNoiseGenerator.cs | 90 |
| Map/VertexColorGenerator.cs | 90 |
| Map/VertexPostionGenerator.cs | 90 |
| Noise/Noise2d.cs | 90 |
| Noise/PoissonSample.cs | 91 |
| obj/Debug/netstandard2.0/SpaceRts.AssemblyInfo.cs | 91 |
| Structures/Base.cs | 92 |
| Structures/Mine.cs | 92 |
| Structures/Ore.cs | 93 |
| Structures/Structure.cs | 93 |
| Units/BasicUnit.cs | 93 |
| Util/FrameCounter.cs | 94 |
| Util/GameOptions.cs | 94 |
| Util/HexagonalBounding.cs | 94 |
| Util/Lobby.cs | 95 |
| Util/MathExtended.cs | 95 |
| Util/ObjectSerialization.cs | 95 |

Chapter 5

Namespace Documentation

5.1 BlackApp Namespace Reference

Classes

- class [Game1](#)

This is the main type for your game.

5.2 Map Namespace Reference

Classes

- class [Hills](#)
- class [Mountains](#)
- class [NoiseGenerator](#)
- class [SubNoiseGenerator](#)
- class [VertexColorGenerator](#)

5.3 SpaceRts Namespace Reference

Namespaces

- namespace [Channels](#)
- namespace [Map](#)
- namespace [Noise](#)
- namespace [Structures](#)
- namespace [Unit](#)
- namespace [Util](#)

Classes

- class [Asteroid](#)
- class [Axial](#)
- class [Camera](#)
- class [Cube](#)
- class [FogOfWar](#)
- class [Global](#)
- class [Models](#)
- class [OddQ](#)
- class [Planet](#)
- class [Player](#)
- class [SolarSystem](#)
- class [Space](#)
- class [SpaceUnit](#)

5.4 SpaceRts.Channels Namespace Reference

Classes

- class [Channel](#)

5.5 SpaceRts.Map Namespace Reference

Classes

- class [Cell](#)
- class [Chunk](#)
- class [Map](#)
- class [VertexPositionGenerator](#)

5.6 SpaceRts.Noise Namespace Reference

Classes

- class [Noise2d](#)
- class [PoissonSample](#)

5.7 SpaceRts.Structures Namespace Reference

Classes

- class [Base](#)
- class [Mine](#)
- class [Ore](#)
- class [Structure](#)

5.8 SpaceRts.Unit Namespace Reference

Classes

- class [BasicUnit](#)
- class [Unit](#)

5.9 SpaceRts.Util Namespace Reference

Classes

- class [ChatEntry](#)
- class [FrameCounter](#)
- class [GameOptions](#)
- class [HexagonalBounding](#)
- class [LobbyData](#)
- class [MathExtended](#)
- class [ObjectSerialization](#)

Enumerations

- enum [NumberOfSolarSystems](#) { [NumberOfSolarSystems.Low](#), [NumberOfSolarSystems.Normal](#), [NumberOfSolarSystems.High](#) }
- enum [NumberOfPlantes](#) { [NumberOfPlantes.Low](#), [NumberOfPlantes.Normal](#), [NumberOfPlantes.High](#) }
- enum [GameSpeed](#) { [GameSpeed.Slow](#), [GameSpeed.Normal](#), [GameSpeed.Fast](#) }

5.9.1 Enumeration Type Documentation

5.9.1.1 GameSpeed

```
enum SpaceRts.Util.GameSpeed [strong]
```

Enumerator

| | |
|--------|--|
| Slow | |
| Normal | |
| Fast | |

5.9.1.2 NumberOfPlantes

```
enum SpaceRts.Util.NumberOfPlantes [strong]
```

Enumerator

| | |
|--------|--|
| Low | |
| Normal | |
| High | |

5.9.1.3 NumberOfSolarSystems

enum `SpaceRts.Util.NumberOfSolarSystems` [strong]

Enumerator

| | |
|--------|--|
| Low | |
| Normal | |
| High | |

Chapter 6

Class Documentation

6.1 SpaceRts.Asteroid Class Reference

Public Member Functions

- [Asteroid](#) ()

6.1.1 Constructor & Destructor Documentation

6.1.1.1 Asteroid()

```
SpaceRts.Asteroid.Asteroid ( ) [inline]
```

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

- [Asteroid.cs](#)

6.2 SpaceRts.Axial Class Reference

Public Member Functions

- [Axial](#) (int q, int r)
- [Axial](#) ([Cube](#) cube)
- [Cube ToCube](#) ()

Static Public Member Functions

- static [Axial operator+](#) ([Axial](#) a, [Axial](#) b)
- static [Axial operator-](#) ([Axial](#) a, [Axial](#) b)
- static [Axial operator*](#) ([Axial](#) a, int scale)

Public Attributes

- int [Q](#)

Static Public Attributes

- static [Axial](#)[] [Neighbours](#)

Private Attributes

- int [R](#)

6.2.1 Constructor & Destructor Documentation

6.2.1.1 Axial() [1/2]

```
SpaceRts.Axial.Axial (
    int q,
    int r ) [inline]
```

6.2.1.2 Axial() [2/2]

```
SpaceRts.Axial.Axial (
    Cube cube ) [inline]
```

6.2.2 Member Function Documentation

6.2.2.1 operator*()

```
static Axial SpaceRts.Axial.operator* (
    Axial a,
    int scale ) [inline], [static]
```

6.2.2.2 operator+()

```
static Axial SpaceRts.Axial.operator+ (
    Axial a,
    Axial b ) [inline], [static]
```

6.2.2.3 operator-()

```
static Axial SpaceRts.Axial.operator- (
    Axial a,
    Axial b ) [inline], [static]
```

6.2.2.4 ToCube()

```
Cube SpaceRts.Axial.ToCube ( ) [inline]
```

6.2.3 Member Data Documentation

6.2.3.1 Neighbours

```
Axial [] SpaceRts.Axial.Neighbours [static]
```

Initial value:

```
= {
    new Axial(+1, 0), new Axial(+1, -1), new Axial(0, -1),
    new Axial(-1, 0), new Axial(-1, +1), new Axial(0, +1)
}
```

6.2.3.2 Q

```
int SpaceRts.Axial.Q
```

6.2.3.3 R

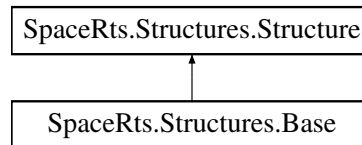
```
int SpaceRts.Axial.R [private]
```

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

- [Coordinate/Cordinate.cs](#)

6.3 SpaceRts.Structures.Base Class Reference

Inheritance diagram for SpaceRts.Structures.Base:



Public Member Functions

- [Base](#) ([Model](#) model, [Cell](#) cell)

Additional Inherited Members

6.3.1 Constructor & Destructor Documentation

6.3.1.1 Base()

```
SpaceRts.Structures.Base.Base (
    Model model,
    Cell cell ) [inline]
```

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

- Structures/[Base.cs](#)

6.4 SpaceRts.Unit.BasicUnit Class Reference

Public Member Functions

- [BasicUnit](#) ()

6.4.1 Constructor & Destructor Documentation

6.4.1.1 BasicUnit()

```
SpaceRts.Unit.BasicUnit.BasicUnit ( ) [inline]
```

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

- Units/[BasicUnit.cs](#)

6.5 SpaceRts.Camera Class Reference

Public Member Functions

- [Camera](#) (GraphicsDevice [graphicsDevice](#))
- void [Update](#) (GameTime gameTime, MouseState mouseState, KeyboardState keyboardState)

Public Attributes

- Vector3 [position](#) = new Vector3(30, 30, 80)
- Vector3 [lookAtVector](#) = new Vector3(0, 0, 0)
- Vector3 [upVector](#) = Vector3.UnitZ
- BoundingFrustum [Frustum](#)

Properties

- Matrix [ViewMatrix](#) [get]
- Matrix [ProjectionMatrix](#) [get]

Private Attributes

- GraphicsDevice [graphicsDevice](#)
- Point [mouseStartCameraMovnmentPosition](#)
- bool [mouseMovingCamera](#)
- double [timeSinceLastClick](#) = 0
- float [SPEED](#) = 1f

6.5.1 Constructor & Destructor Documentation

6.5.1.1 Camera()

```
SpaceRts.Camera.Camera (
    GraphicsDevice graphicsDevice ) [inline]
```

6.5.2 Member Function Documentation

6.5.2.1 Update()

```
void SpaceRts.Camera.Update (
    GameTime gameTime,
    MouseState mouseState,
    KeyboardState keyboardState ) [inline]
```

6.5.3 Member Data Documentation

6.5.3.1 Frustum

```
BoundingFrustum SpaceRts.Camera.Frustum
```

6.5.3.2 graphicsDevice

```
GraphicsDevice SpaceRts.Camera.graphicsDevice [private]
```

6.5.3.3 lookAtVector

```
Vector3 SpaceRts.Camera.lookAtVector = new Vector3(0, 0, 0)
```

6.5.3.4 mouseMovingCamera

```
bool SpaceRts.Camera.mouseMovingCamera [private]
```

6.5.3.5 mouseStartCameraMovnmentPosition

```
Point SpaceRts.Camera.mouseStartCameraMovnmentPosition [private]
```


6.5.3.6 position

```
Vector3 SpaceRts.Camera.position = new Vector3(30, 30, 80)
```

6.5.3.7 SPEED

```
float SpaceRts.Camera.SPEED = 1f [private]
```

6.5.3.8 timeSinceLastClick

```
double SpaceRts.Camera.timeSinceLastClick = 0 [private]
```

6.5.3.9 upVector

```
Vector3 SpaceRts.Camera.upVector = Vector3.UnitZ
```

6.5.4 Property Documentation

6.5.4.1 ProjectionMatrix

```
Matrix SpaceRts.Camera.ProjectionMatrix [get]
```

6.5.4.2 ViewMatrix

```
Matrix SpaceRts.Camera.ViewMatrix [get]
```

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

- [Camera.cs](#)

6.6 SpaceRts.Map.Cell Class Reference

Public Member Functions

- [Cell](#) ()
- float? [Intersects](#) (Ray ray)
- void [DrawOnTop](#) (Model model, SpriteBatch spriteBatch, GraphicsDeviceManager graphics, [Camera](#) camera)

Public Attributes

- [List< Vector3 >](#)

Generates the mesh for cell.

Static Public Attributes

- const float [HEIGHT_SCALE](#) = 10f
- const float [HEIGHT_CHANGE_INSET_SCALE](#) = 0.7f
- const int [HEIGHT_CHANGE_NUMBER_OF_TERRACES](#) = 2
- const float [HEIGHT_CHANGE_SLOPE_INSET](#) = 0.6f
- const float [outerRadius](#) = 10f
- const float [innerRadius](#) = [outerRadius](#) * 0.86602540378f
- static Vector3[] [corners](#)
- const float [uvOuterRadius](#) = 0.5f
- const float [uvInnerRadius](#) = [outerRadius](#) * 0.86602540378f
- static Vector3[] [uvCorners](#)
- static Tuple< int, int >[] [adjacentsEven](#)
- static Tuple< int, int >[] [adjacentsOdd](#)

Private Member Functions

- List< int > [GenerateMesh](#) (int chunkX, int chunkY, int chunkWidth, int chunkHeight, int mapWidth, int mapHeight, int cellX, int cellY, [NoiseGenerator noiseGenerator](#))
- Color [colorAtHeight](#) (float height)

Private Attributes

- Vector3[] [calculatedCorners](#) = new Vector3[7]
- Vector3 [drawCenter](#)
- [HexagonalBounding](#) bounding
- [NoiseGenerator](#) noiseGenerator
- [List< Vector2 >](#)
- [List< Color >](#)

Static Private Attributes

- const float [HEIGHT_CHANGE_TERRACE_SCALE](#) = 1f / ([HEIGHT_CHANGE_NUMBER_OF_TERRACES](#) + 1)

6.6.1 Constructor & Destructor Documentation

6.6.1.1 Cell()

```
SpaceRts.Map.Cell.Cell ( ) [inline]
```

6.6.2 Member Function Documentation

6.6.2.1 colorAtHeight()

```
Color SpaceRts.Map.Cell.colorAtHeight (
    float height ) [inline], [private]
```

6.6.2.2 DrawOnTop()

```
void SpaceRts.Map.Cell.DrawOnTop (
    Model model,
    SpriteBatch spriteBatch,
    GraphicsDeviceManager graphics,
    Camera camera ) [inline]
```

6.6.2.3 GenerateMesh()

```
List<int> SpaceRts.Map.Cell.GenerateMesh (
    int chunkX,
    int chunkY,
    int chunkWidth,
    int chunkHeight,
    int mapWidth,
    int mapHeight,
    int cellX,
    int cellY,
    NoiseGenerator noiseGenerator ) [inline], [private]
```

6.6.2.4 Intersects()

```
float? SpaceRts.Map.Cell.Intersects (
    Ray ray ) [inline]
```

6.6.3 Member Data Documentation

6.6.3.1 adjacentsEven

`Tuple<int, int> [] SpaceRts.Map.Cell.adjacentsEven [static]`

Initial value:

```
= {
    new Tuple<int, int>(0, 1),
    new Tuple<int, int>(1,0),
    new Tuple<int, int>(0,-1),
    new Tuple<int, int>(-1,-1),
    new Tuple<int, int>(-1, 0),
    new Tuple<int, int>(-1,1),
}
```

6.6.3.2 adjacentsOdd

`Tuple<int, int> [] SpaceRts.Map.Cell.adjacentsOdd [static]`

Initial value:

```
= {
    new Tuple<int, int>(1, 1),
    new Tuple<int, int>(1,0),
    new Tuple<int, int>(1,-1),
    new Tuple<int, int>(0,-1),
    new Tuple<int, int>(-1, 0),
    new Tuple<int, int>(0, 1),
}
```

6.6.3.3 bounding

`HexagonalBounding SpaceRts.Map.Cell.bounding [private]`

6.6.3.4 calculatedCorners

`Vector3 [] SpaceRts.Map.Cell.calculatedCorners = new Vector3[7] [private]`

6.6.3.5 corners

`Vector3 [] SpaceRts.Map.Cell.corners [static]`

Initial value:

```
= {
    new Vector3(0f, outerRadius, 0f),
    new Vector3(innerRadius, 0.5f * outerRadius, 0f),
    new Vector3(innerRadius, -0.5f * outerRadius, 0f),
    new Vector3(0f, -outerRadius, 0f),
    new Vector3(-innerRadius, -0.5f * outerRadius, 0f),
    new Vector3(-innerRadius, 0.5f * outerRadius, 0f),
    new Vector3(0f, outerRadius, 0f),
}
```

6.6.3.6 drawCenter

```
Vector3 SpaceRts.Map.Cell.drawCenter [private]
```

6.6.3.7 HEIGHT_CHANGE_INSET_SCALE

```
const float SpaceRts.Map.Cell.HEIGHT_CHANGE_INSET_SCALE = 0.7f [static]
```

6.6.3.8 HEIGHT_CHANGE_NUMBER_OF_TERRACES

```
const int SpaceRts.Map.Cell.HEIGHT_CHANGE_NUMBER_OF_TERRACES = 2 [static]
```

6.6.3.9 HEIGHT_CHANGE_SLOPE_INSET

```
const float SpaceRts.Map.Cell.HEIGHT_CHANGE_SLOPE_INSET = 0.6f [static]
```

6.6.3.10 HEIGHT_CHANGE_TERRACE_SCALE

```
const float SpaceRts.Map.Cell.HEIGHT_CHANGE_TERRACE_SCALE = 1f / (HEIGHT_CHANGE_NUMBER_OF_TERRACES  
+ 1) [static], [private]
```

6.6.3.11 HEIGHT_SCALE

```
const float SpaceRts.Map.Cell.HEIGHT_SCALE = 10f [static]
```

6.6.3.12 innerRadius

```
const float SpaceRts.Map.Cell.innerRadius = outerRadius * 0.86602540378f [static]
```

6.6.3.13 List< Color >

```
SpaceRts.Map.Cell.List< Color > [private]
```

6.6.3.14 List< Vector2 >

```
SpaceRts.Map.Cell.List< Vector2 > [private]
```

6.6.3.15 List< Vector3 >

```
SpaceRts.Map.Cell.List< Vector3 >
```

Generates the mesh for cell.

Returns

The mesh.

Parameters

| | |
|-----------------------|----------------------------------|
| <i>chunkX</i> | Chunk x. |
| <i>chunkY</i> | Chunk y. |
| <i>chunkWidth</i> | Chunk width. |
| <i>chunkHeight</i> | Chunk height. |
| <i>mapWidth</i> | Map width. |
| <i>mapHeight</i> | Map height. |
| <i>cellX</i> | Cell x. |
| <i>cellY</i> | Cell y. |
| <i>noiseGenerator</i> | Noise generator. |

6.6.3.16 noiseGenerator

```
NoiseGenerator SpaceRts.Map.Cell.noiseGenerator [private]
```

6.6.3.17 outerRadius

```
const float SpaceRts.Map.Cell.outerRadius = 10f [static]
```

6.6.3.18 uvCorners

```
Vector3 [] SpaceRts.Map.Cell.uvCorners [static]
```

Initial value:

```
=
{
    new Vector3(0f, uvOuterRadius, 0f),
    new Vector3(uvInnerRadius, 0.5f * uvOuterRadius, 0f),
    new Vector3(uvInnerRadius, -0.5f * uvOuterRadius, 0f),
    new Vector3(0f, -uvOuterRadius, 0f),
    new Vector3(-uvInnerRadius, -0.5f * uvOuterRadius, 0f),
    new Vector3(-uvInnerRadius, 0.5f * uvOuterRadius, 0f),
    new Vector3(0f, uvOuterRadius, 0f),
}
```

6.6.3.19 uvInnerRadius

```
const float SpaceRts.Map.Cell.uvInnerRadius = outerRadius * 0.86602540378f [static]
```

6.6.3.20 uvOuterRadius

```
const float SpaceRts.Map.Cell.uvOuterRadius = 0.5f [static]
```

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

- Map/[Cell.cs](#)

6.7 SpaceRts.Channels.Channel Class Reference

Public Types

- enum [Channels](#) { [Channels.Auth](#), [Channels.Lobby](#), [Channels.Game](#) }
- enum [AuthChannel](#) { [AuthChannel.Id](#), [AuthChannel.UUID](#) }
- enum [LobbyChannel](#) { [LobbyChannel.Create](#), [LobbyChannel.Join](#), [LobbyChannel.Invite](#), [LobbyChannel.Kick](#), [LobbyChannel.Chat](#), [LobbyChannel.Users](#), [LobbyChannel.SendChat](#) }
- enum [GameChannel](#) { [GameChannel.SpaceGenerationSeed](#), [GameChannel.PlaceStructure](#), [GameChannel.RemoveStructure](#), [GameChannel.AssignUnit](#), [GameChannel.ConfirmResourceCount](#), [GameChannel.ConfirmBuild](#) }
- enum [StructureList](#) { [StructureList.Base](#), [StructureList.Mine](#), [StructureList.Smeltery](#), [StructureList.Conveyor](#), [StructureList.Turret](#), [StructureList.Lab](#), [StructureList.Frack](#), [StructureList.Raffinery](#), [StructureList.Farm](#), [StructureList.Housing](#), [StructureList.RechargingStation](#), [StructureList.Baracks](#), [StructureList.LaunchPad](#) }

Static Public Member Functions

- static void [SetSubChannel](#) (NetOutgoingMessage message, int subChannel)

Static Public Attributes

- static int `NUMBER_OF_CHANNELS` = 3
- static int `CHANNEL_SIZE` = 32
- static int `TOTAL_CHANNELS` = `CHANNEL_SIZE` * `NUMBER_OF_CHANNELS`

6.7.1 Member Enumeration Documentation

6.7.1.1 AuthChannel

enum `SpaceRts.Channels.Channel.AuthChannel` [strong]

Enumerator

| | |
|------|--|
| Id | |
| UUID | |

6.7.1.2 Channels

enum `SpaceRts.Channels.Channel.Channels` [strong]

Enumerator

| | |
|-------|--|
| Auth | |
| Lobby | |
| Game | |

6.7.1.3 GameChannel

enum `SpaceRts.Channels.Channel.GameChannel` [strong]

Enumerator

| | |
|----------------------|--|
| SpaceGenerationSeed | |
| PlaceStructure | |
| RemoveStructure | |
| AssignUnit | |
| ConfirmResourceCount | |
| ConfirmBuild | |

6.7.1.4 LobbyChannel

enum [SpaceRts.Channels.Channel.LobbyChannel](#) [strong]

Enumerator

| | |
|----------|--|
| Create | |
| Join | |
| Invite | |
| Kick | |
| Chat | |
| Users | |
| SendChat | |

6.7.1.5 StructureList

enum [SpaceRts.Channels.Channel.StructureList](#) [strong]

Enumerator

| | |
|-------------------|--|
| Base | |
| Mine | |
| Smeltery | |
| Conveyor | |
| Turret | |
| Lab | |
| Frack | |
| Raffinery | |
| Farm | |
| Housing | |
| RechargingStation | |
| Baracks | |
| LaunchPad | |

6.7.2 Member Function Documentation

6.7.2.1 SetSubChannel()

```
static void SpaceRts.Channels.Channel.SetSubChannel (
    NetOutgoingMessage message,
    int subChannel ) [inline], [static]
```

6.7.3 Member Data Documentation

6.7.3.1 CHANNEL_SIZE

```
int SpaceRts.Channels.Channel.CHANNEL_SIZE = 32 [static]
```

6.7.3.2 NUMBER_OF_CHANNELS

```
int SpaceRts.Channels.Channel.NUMBER_OF_CHANNELS = 3 [static]
```

6.7.3.3 TOTAL_CHANNELS

```
int SpaceRts.Channels.Channel.TOTAL_CHANNELS = CHANNEL_SIZE * NUMBER_OF_CHANNELS [static]
```

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

- [Channels.cs](#)

6.8 SpaceRts.Util.ChatEntry Class Reference

Public Member Functions

- [ChatEntry](#) (string userName, string message)

Public Attributes

- string [UserName](#)

Private Attributes

- string [Message](#)

6.8.1 Constructor & Destructor Documentation

6.8.1.1 ChatEntry()

```
SpaceRts.Util.ChatEntry.ChatEntry (
    string userName,
    string message ) [inline]
```

6.8.2 Member Data Documentation

6.8.2.1 Message

```
string SpaceRts.Util.ChatEntry.Message [private]
```

6.8.2.2 UserName

```
string SpaceRts.Util.ChatEntry.UserName
```

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

- Util/[Lobby.cs](#)

6.9 SpaceRts.Map.Chunk Class Reference

Public Member Functions

- [Chunk](#) (int chunkX, int chunkY, int width, int height, int mapWidth, int mapHeight, [NoiseGenerator](#) noise↔Generator, GraphicsDeviceManager graphics, PlanetTypes [planetType](#))
- void [Update](#) ()
- float? [Intersect](#) (Ray ray)
- [Cell Intersects](#) (Ray ray)
- void [Draw](#) (SpriteBatch spriteBatch, GraphicsDeviceManager graphics, [Camera](#) camera)

Static Public Member Functions

- static void [LoadContent](#) (ContentManager content)

Public Attributes

- BoundingBox [BoundingBox](#)
- VertexPositionColorTexture[][] [Vertices](#)
- IndexBuffer [Indices](#)
- [Cell](#)[,] [Cells](#)

Static Public Attributes

- static Color[] [CornerColors](#)
- static Vector3 [IREGULARITY_VECTOR](#) = new Vector3(0, 0, 0)
- static Vector3 [HEIGHT_SIZE_FALLOFF](#) = new Vector3(1.5f, 1.5f, 0)
- static RasterizerState [TerrainRasterizerState](#)

Private Attributes

- BasicEffect [testEffect](#)
- int [ChunkX](#)
- int [ChunkY](#)
- int [Width](#)
- int [Height](#)
- List< BiomeType > [Biomes](#)
- PlanetTypes [planetType](#)

Static Private Attributes

- static Effect [effect](#)
- static Texture2D [texture](#)

6.9.1 Constructor & Destructor Documentation

6.9.1.1 Chunk()

```
SpaceRts.Map.Chunk.Chunk (
    int chunkX,
    int chunkY,
    int width,
    int height,
    int mapWidth,
    int mapHeight,
    NoiseGenerator noiseGenerator,
    GraphicsDeviceManager graphics,
    PlanetTypes planetType ) [inline]
```

6.9.2 Member Function Documentation

6.9.2.1 Draw()

```
void SpaceRts.Map.Chunk.Draw (
    SpriteBatch spriteBatch,
    GraphicsDeviceManager graphics,
    Camera camera ) [inline]
```

6.9.2.2 Intersect()

```
float? SpaceRts.Map.Chunk.Intersect (
    Ray ray ) [inline]
```

6.9.2.3 Intersects()

```
Cell SpaceRts.Map.Chunk.Intersects (
    Ray ray ) [inline]
```

6.9.2.4 LoadContent()

```
static void SpaceRts.Map.Chunk.LoadContent (
    ContentManager content ) [inline], [static]
```

6.9.2.5 Update()

```
void SpaceRts.Map.Chunk.Update ( ) [inline]
```

6.9.3 Member Data Documentation

6.9.3.1 Biomes

```
List<BiomeType> SpaceRts.Map.Chunk.Biomes [private]
```

6.9.3.2 BoundingBox

```
BoundingBox SpaceRts.Map.Chunk.BoundingBox
```

6.9.3.3 Cells

```
Cell [,] SpaceRts.Map.Chunk.Cells
```

6.9.3.4 ChunkX

```
int SpaceRts.Map.Chunk.ChunkX [private]
```

6.9.3.5 ChunkY

```
int SpaceRts.Map.Chunk.ChunkY [private]
```

6.9.3.6 CornerColors

```
Color [ ] SpaceRts.Map.Chunk.CornerColors [static]
```

Initial value:

```
= {  
    Color.Red,  
    Color.Blue,  
    Color.Green,  
    Color.Yellow,  
    Color.Black,  
    Color.Aqua  
}
```

6.9.3.7 effect

```
Effect SpaceRts.Map.Chunk.effect [static], [private]
```

6.9.3.8 Height

```
int SpaceRts.Map.Chunk.Height [private]
```

6.9.3.9 HEIGHT_SIZE_FALLOFF

```
Vector3 SpaceRts.Map.Chunk.HEIGHT_SIZE_FALLOFF = new Vector3(1.5f, 1.5f, 0) [static]
```

6.9.3.10 Indices

```
IndexBuffer SpaceRts.Map.Chunk.Indices
```

6.9.3.11 IREGULARITY_VECTOR

```
Vector3 SpaceRts.Map.Chunk.IREGULARITY_VECTOR = new Vector3(0, 0, 0) [static]
```

6.9.3.12 planetType

```
PlanetTypes SpaceRts.Map.Chunk.planetType [private]
```

6.9.3.13 TerrainRasterizerState

```
RasterizerState SpaceRts.Map.Chunk.TerrainRasterizerState [static]
```

Initial value:

```
= new RasterizerState()  
{  
    FillMode = FillMode.Solid,  
    CullMode = CullMode.None,  
}
```

6.9.3.14 testEffect

```
BasicEffect SpaceRts.Map.Chunk.testEffect [private]
```

6.9.3.15 texture

```
Texture2D SpaceRts.Map.Chunk.texture [static], [private]
```

6.9.3.16 Vertices

```
VertexPositionColorTexture [][] SpaceRts.Map.Chunk.Vertices
```

6.9.3.17 Width

```
int SpaceRts.Map.Chunk.Width [private]
```

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

- [Map/Chunk.cs](#)

6.10 SpaceRts.Cube Class Reference

Public Member Functions

- [Cube](#) (int x, int y, int z)
- [Cube](#) (int q, int r)
- [Cube](#) ([Axial](#) axial)
- [Axial ToAxial](#) ()
- [OddQ ToOddQ](#) ()

Static Public Member Functions

- static [Cube operator+](#) ([Cube](#) a, [Cube](#) b)
- static [Cube operator-](#) ([Cube](#) a, [Cube](#) b)
- static [Cube operator*](#) ([Cube](#) a, int scale)

Public Attributes

- int [X](#)

Static Public Attributes

- static [Cube\[\]](#) [Neighbours](#)

Private Attributes

- int [Y](#)
- int [Z](#)

6.10.1 Constructor & Destructor Documentation

6.10.1.1 [Cube\(\)](#) [1/3]

```
SpaceRts.Cube.Cube (  
    int x,  
    int y,  
    int z ) [inline]
```

6.10.1.2 [Cube\(\)](#) [2/3]

```
SpaceRts.Cube.Cube (  
    int q,  
    int r ) [inline]
```


6.10.1.3 Cube() [3/3]

```
SpaceRts.Cube.Cube (
    Axial axial ) [inline]
```

6.10.2 Member Function Documentation

6.10.2.1 operator*()

```
static Cube SpaceRts.Cube.operator* (
    Cube a,
    int scale ) [inline], [static]
```

6.10.2.2 operator+()

```
static Cube SpaceRts.Cube.operator+ (
    Cube a,
    Cube b ) [inline], [static]
```

6.10.2.3 operator-()

```
static Cube SpaceRts.Cube.operator- (
    Cube a,
    Cube b ) [inline], [static]
```

6.10.2.4 ToAxial()

```
Axial SpaceRts.Cube.ToAxial ( ) [inline]
```

6.10.2.5 ToOddQ()

```
OddQ SpaceRts.Cube.ToOddQ ( ) [inline]
```

6.10.3 Member Data Documentation

6.10.3.1 Neighbours

```
Cube [] SpaceRts.Cube.Neighbours [static]
```

Initial value:

```
= {  
    new Cube(+1, -1, 0), new Cube(+1, 0, -1), new Cube(0, +1, -1),  
    new Cube(-1, +1, 0), new Cube(-1, 0, +1), new Cube(0, -1, +1)  
}
```

6.10.3.2 X

```
int SpaceRts.Cube.X
```

6.10.3.3 Y

```
int SpaceRts.Cube.Y [private]
```

6.10.3.4 Z

```
int SpaceRts.Cube.Z [private]
```

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

- [Cordinate/Cordinate.cs](#)

6.11 SpaceRts.FogOfWar Class Reference

Public Member Functions

- [FogOfWar](#) (int seed, int width, int height, GraphicsDeviceManager graphics)
- void [Draw](#) (SpriteBatch spriteBatch, GraphicsDeviceManager graphics, [Camera](#) camera)

Static Public Member Functions

- static void [LoadContent](#) (ContentManager content)

Static Public Attributes

- const int [TILE_WIDTH](#) = 1
- static Effect [effect](#)
- static int [Width](#)
- static VertexPositionColor[] [Vertecies](#)

Private Attributes

- [Noise2d Noise](#)
- float `x` = 0

Static Private Attributes

- const int `TILE_DEPTH` = 1
- static int [Height](#)

6.11.1 Constructor & Destructor Documentation

6.11.1.1 FogOfWar()

```
SpaceRts.FogOfWar.FogOfWar (
    int seed,
    int width,
    int height,
    GraphicsDeviceManager graphics ) [inline]
```

6.11.2 Member Function Documentation

6.11.2.1 Draw()

```
void SpaceRts.FogOfWar.Draw (
    SpriteBatch spriteBatch,
    GraphicsDeviceManager graphics,
    Camera camera ) [inline]
```

6.11.2.2 LoadContent()

```
static void SpaceRts.FogOfWar.LoadContent (
    ContentManager content ) [inline], [static]
```

6.11.3 Member Data Documentation

6.11.3.1 effect

```
Effect SpaceRts.FogOfWar.effect [static]
```

6.11.3.2 Height

```
int SpaceRts.FogOfWar.Height [static], [private]
```

6.11.3.3 Noise

```
Noise2d SpaceRts.FogOfWar.Noise [private]
```

6.11.3.4 TILE_DEPTH

```
const int SpaceRts.FogOfWar.TILE_DEPTH = 1 [static], [private]
```

6.11.3.5 TILE_WIDTH

```
const int SpaceRts.FogOfWar.TILE_WIDTH = 1 [static]
```

6.11.3.6 Vertecies

```
VertexPositionColor [ ] SpaceRts.FogOfWar.Vertecies [static]
```

6.11.3.7 Width

```
int SpaceRts.FogOfWar.Width [static]
```

6.11.3.8 x

```
float SpaceRts.FogOfWar.x = 0 [private]
```

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

- [FogOfWar.cs](#)

6.12 SpaceRts.Util.FrameCounter Class Reference

Public Member Functions

- [FrameCounter](#) ()
- void [Update](#) (float deltaTime)

Static Public Attributes

- const int [MAXIMUM_SAMPLES](#) = 100

Properties

- long [TotalFrames](#) [get, private set]
- float [TotalSeconds](#) [get, private set]
- float [AverageFramesPerSecond](#) [get, private set]
- float [CurrentFramesPerSecond](#) [get, private set]

Private Attributes

- Queue< float > [_sampleBuffer](#) = new Queue<float>()

6.12.1 Constructor & Destructor Documentation

6.12.1.1 FrameCounter()

```
SpaceRts.Util.FrameCounter.FrameCounter ( ) [inline]
```

6.12.2 Member Function Documentation

6.12.2.1 Update()

```
void SpaceRts.Util.FrameCounter.Update (  
    float deltaTime ) [inline]
```

6.12.3 Member Data Documentation

6.12.3.1 `_sampleBuffer`

```
Queue<float> SpaceRts.Util.FrameCounter._sampleBuffer = new Queue<float>() [private]
```

6.12.3.2 `MAXIMUM_SAMPLES`

```
const int SpaceRts.Util.FrameCounter.MAXIMUM_SAMPLES = 100 [static]
```

6.12.4 Property Documentation

6.12.4.1 `AverageFramesPerSecond`

```
float SpaceRts.Util.FrameCounter.AverageFramesPerSecond [get], [private set]
```

6.12.4.2 `CurrentFramesPerSecond`

```
float SpaceRts.Util.FrameCounter.CurrentFramesPerSecond [get], [private set]
```

6.12.4.3 `TotalFrames`

```
long SpaceRts.Util.FrameCounter.TotalFrames [get], [private set]
```

6.12.4.4 TotalSeconds

```
float SpaceRts.Util.FrameCounter.TotalSeconds [get], [private set]
```

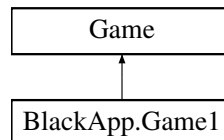
The documentation for this class was generated from the following file:

- Util/[FrameCounter.cs](#)

6.13 BlackApp.Game1 Class Reference

This is the main type for your game.

Inheritance diagram for BlackApp.Game1:



Public Member Functions

- [Game1](#) ()

Protected Member Functions

- override void [Initialize](#) ()
Allows the game to perform any initialization it needs to before starting to run. This is where it can query for any required services and load any non-graphic related content. Calling base.Initialize will enumerate through any components and initialize them as well.
- override void [LoadContent](#) ()
LoadContent will be called once per game and is the place to load all of your content.
- override void [Update](#) (GameTime gameTime)
Allows the game to run logic such as updating the world, checking for collisions, gathering input, and playing audio.
- override void [Draw](#) (GameTime gameTime)
This is called when the game should draw itself.

Private Attributes

- GraphicsDeviceManager [graphics](#)
- SpriteBatch [spriteBatch](#)

6.13.1 Detailed Description

This is the main type for your game.

6.13.2 Constructor & Destructor Documentation

6.13.2.1 Game1()

```
BlackApp.Game1.Game1 ( ) [inline]
```

6.13.3 Member Function Documentation

6.13.3.1 Draw()

```
override void BlackApp.Game1.Draw (
    GameTime gameTime ) [inline], [protected]
```

This is called when the game should draw itself.

Parameters

| | |
|-----------------|---------------------------------------|
| <i>gameTime</i> | Provides a snapshot of timing values. |
|-----------------|---------------------------------------|

6.13.3.2 Initialize()

```
override void BlackApp.Game1.Initialize ( ) [inline], [protected]
```

Allows the game to perform any initialization it needs to before starting to run. This is where it can query for any required services and load any non-graphic related content. Calling `base.Initialize` will enumerate through any components and initialize them as well.

6.13.3.3 LoadContent()

```
override void BlackApp.Game1.LoadContent ( ) [inline], [protected]
```

`LoadContent` will be called once per game and is the place to load all of your content.

6.13.3.4 Update()

```
override void BlackApp.Game1.Update (
    GameTime gameTime ) [inline], [protected]
```

Allows the game to run logic such as updating the world, checking for collisions, gathering input, and playing audio.

Parameters

| | |
|-----------------|---------------------------------------|
| <i>gameTime</i> | Provides a snapshot of timing values. |
|-----------------|---------------------------------------|

6.13.4 Member Data Documentation

6.13.4.1 graphics

GraphicsDeviceManager BlackApp.Game1.graphics [private]

6.13.4.2 spriteBatch

SpriteBatch BlackApp.Game1.spriteBatch [private]

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

- [Game1.cs](#)

6.14 SpaceRts.Util.GameOptions Class Reference

Public Member Functions

- [GameOptions](#) ([NumberOfSolarSystems](#) numberOfSolarSystems, [NumberOfPlantes](#) numberOfPlantes, [GameSpeed](#) gameSpeed)

Public Attributes

- [NumberOfSolarSystems](#) NumberOfSolarSystems
- [NumberOfPlantes](#) NumberOfPlantes
- [GameSpeed](#) GameSpeed

6.14.1 Constructor & Destructor Documentation

6.14.1.1 GameOptions()

```
SpaceRts.Util.GameOptions.GameOptions (
    NumberOfSolarSystems numberOfSolarSystems,
    NumberOfPlantes numberOfPlantes,
    GameSpeed gameSpeed ) [inline]
```

6.14.2 Member Data Documentation

6.14.2.1 GameSpeed

[GameSpeed](#) `SpaceRts.Util.GameOptions.GameSpeed`

6.14.2.2 NumberOfPlantes

[NumberOfPlantes](#) `SpaceRts.Util.GameOptions.NumberOfPlantes`

6.14.2.3 NumberOfSolarSystems

[NumberOfSolarSystems](#) `SpaceRts.Util.GameOptions.NumberOfSolarSystems`

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

- [Util/GameOptions.cs](#)

6.15 SpaceRts.Global Class Reference

Static Public Attributes

- static int [SelectedSolarSystem](#)
- static int [SelectedPlanet](#)
- static [Camera](#) [Camera](#)
- static MouseState [MouseState](#)
- static KeyboardState [KeyboardState](#)
- static Ray [ClickRay](#)

6.15.1 Member Data Documentation

6.15.1.1 Camera

[Camera](#) `SpaceRts.Global.Camera` [static]

6.15.1.2 ClickRay

```
Ray SpaceRts.Global.ClickRay [static]
```

6.15.1.3 KeyboardState

```
KeyboardState SpaceRts.Global.KeyboardState [static]
```

6.15.1.4 MouseState

```
MouseState SpaceRts.Global.MouseState [static]
```

6.15.1.5 SelectedPlanet

```
int SpaceRts.Global.SelectedPlanet [static]
```

6.15.1.6 SelectedSolarSystem

```
int SpaceRts.Global.SelectedSolarSystem [static]
```

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

- [Global.cs](#)

6.16 SpaceRts.Util.HexagonalBounding Class Reference

Public Member Functions

- [HexagonalBounding](#) (Vector3[] corners)
- float? [Intersects](#) (Ray ray)

Private Attributes

- BoundingBox[] [BoundingBoxes](#)

6.16.1 Constructor & Destructor Documentation

6.16.1.1 HexagonalBounding()

```
SpaceRts.Util.HexagonalBounding.HexagonalBounding (
    Vector3[] corners ) [inline]
```

6.16.2 Member Function Documentation

6.16.2.1 Intersects()

```
float? SpaceRts.Util.HexagonalBounding.Intersects (
    Ray ray ) [inline]
```

6.16.3 Member Data Documentation

6.16.3.1 BoundingBoxes

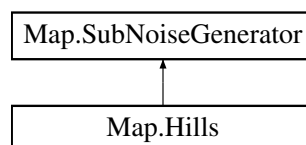
```
BoundingBox [ ] SpaceRts.Util.HexagonalBounding.BoundingBoxes [private]
```

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

- [Util/HexagonalBounding.cs](#)

6.17 Map.Hills Class Reference

Inheritance diagram for Map.Hills:



Public Member Functions

- [Hills](#) (int seed, int width, int height, float frequency, float amplitude)
- [Hills](#) (object[] args)
- override float [GenerateAtPosition](#) (int x, int y)

Additional Inherited Members

6.17.1 Constructor & Destructor Documentation

6.17.1.1 Hills() [1/2]

```
Map.Hills.Hills (
    int seed,
    int width,
    int height,
    float frequency,
    float amplitude ) [inline]
```

6.17.1.2 Hills() [2/2]

```
Map.Hills.Hills (
    object[] args ) [inline]
```

6.17.2 Member Function Documentation

6.17.2.1 GenerateAtPosition()

```
override float Map.Hills.GenerateAtPosition (
    int x,
    int y ) [inline], [virtual]
```

Reimplemented from [Map.SubNoiseGenerator](#).

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

- [Map/SubNoiseGenerator.cs](#)

6.18 SpaceRts.Util.LobbyData Class Reference

Public Member Functions

- [LobbyData](#) (string iD, string owner, string[] members, List< [ChatEntry](#) > chat)

Public Attributes

- string [ID](#)
- string [Owner](#)
- string[] [Members](#)
- List< [ChatEntry](#) > [Chat](#)

6.18.1 Constructor & Destructor Documentation

6.18.1.1 LobbyData()

```
SpaceRts.Util.LobbyData.LobbyData (
    string id,
    string owner,
    string[] members,
    List< ChatEntry > chat ) [inline]
```

6.18.2 Member Data Documentation

6.18.2.1 Chat

```
List<ChatEntry> SpaceRts.Util.LobbyData.Chat
```

6.18.2.2 ID

```
string SpaceRts.Util.LobbyData.ID
```

6.18.2.3 Members

```
string [] SpaceRts.Util.LobbyData.Members
```

6.18.2.4 Owner

```
string SpaceRts.Util.LobbyData.Owner
```

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

- Util/[Lobby.cs](#)

6.19 SpaceRts.Map.Map Class Reference

Public Member Functions

- [Map](#) (int id, int seed, int width, int height, [NoiseGenerator](#) noiseGenerator, GraphicsDeviceManager graphics, PlanetTypes planetType)
- [Cell CellAtPosition](#) (int cx, int cy, int x, int y)
- [Cell CellAtPosition](#) (int x, int y)
- void [Update](#) ()
- void [Draw](#) (SpriteBatch spriteBatch, GraphicsDeviceManager graphics, [Camera](#) camera)

Public Attributes

- [Chunk](#)

Static Public Attributes

- const int [ChunkWidth](#) = 16

Private Member Functions

- [Cell Intersect](#) (Ray ray)

Private Attributes

- [Chunk](#)[,] [Chunks](#)
- int [Width](#)
- int [Height](#)

Static Private Attributes

- const int [ChunkHeight](#) = 16

6.19.1 Constructor & Destructor Documentation

6.19.1.1 Map()

```
SpaceRts.Map.Map.Map (
    int id,
    int seed,
    int width,
    int height,
    NoiseGenerator noiseGenerator,
    GraphicsDeviceManager graphics,
    PlanetTypes planetType ) [inline]
```

6.19.2 Member Function Documentation

6.19.2.1 CellAtPosition() [1/2]

```
Cell SpaceRts.Map.Map.CellAtPosition (
    int cx,
    int cy,
    int x,
    int y ) [inline]
```

6.19.2.2 CellAtPosition() [2/2]

```
Cell SpaceRts.Map.Map.CellAtPosition (
    int x,
    int y ) [inline]
```

6.19.2.3 Draw()

```
void SpaceRts.Map.Map.Draw (
    SpriteBatch spriteBatch,
    GraphicsDeviceManager graphics,
    Camera camera ) [inline]
```

6.19.2.4 Intersect()

```
Cell SpaceRts.Map.Map.Intersect (
    Ray ray ) [inline], [private]
```

6.19.2.5 Update()

```
void SpaceRts.Map.Map.Update ( ) [inline]
```

6.19.3 Member Data Documentation

6.19.3.1 Chunk

SpaceRts.Map.Map.Chunk

6.19.3.2 ChunkHeight

```
const int SpaceRts.Map.Map.ChunkHeight = 16 [static], [private]
```

6.19.3.3 Chunks

```
Chunk [,] SpaceRts.Map.Map.Chunks [private]
```

6.19.3.4 ChunkWidth

```
const int SpaceRts.Map.Map.ChunkWidth = 16 [static]
```

6.19.3.5 Height

```
int SpaceRts.Map.Map.Height [private]
```

6.19.3.6 Width

```
int SpaceRts.Map.Map.Width [private]
```

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

- Map/[Map.cs](#)

6.20 SpaceRts.Util.MathExtended Class Reference

Static Public Member Functions

- static int [GradientIndex](#) (float value, float[] gradient)
Finds 0 based index of value inside of gradient.

6.20.1 Member Function Documentation

6.20.1.1 GradientIndex()

```
static int SpaceRts.Util.MathExtended.GradientIndex (
    float value,
    float[] gradient ) [inline], [static]
```

Finds 0 based index of value inside of gradient.

Returns

The index.

Parameters

| | |
|-----------------|--------------------------------|
| <i>value</i> | Value to search. |
| <i>gradient</i> | Gradient - 0 to 1 float array. |

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

- Util/[MathExtended.cs](#)

6.21 SpaceRts.Structures.Mine Class Reference

Public Member Functions

- [Mine](#) ()

6.21.1 Constructor & Destructor Documentation

6.21.1.1 Mine()

```
SpaceRts.Structures.Mine.Mine ( ) [inline]
```

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

- Structures/[Mine.cs](#)

6.22 SpaceRts.Models Class Reference

Static Public Member Functions

- static void [Load](#) (ContentManager content)

Static Public Attributes

- static Model [Base](#)
- static Model[] [Ores](#)

6.22.1 Member Function Documentation

6.22.1.1 Load()

```
static void SpaceRts.Models.Load (  
    ContentManager content ) [inline], [static]
```

6.22.2 Member Data Documentation

6.22.2.1 Base

```
Model SpaceRts.Models.Base [static]
```

6.22.2.2 Ores

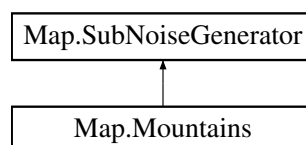
```
Model [ ] SpaceRts.Models.Ores [static]
```

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

- [Global.cs](#)

6.23 Map.Mountains Class Reference

Inheritance diagram for Map.Mountains:



Public Member Functions

- [Mountains](#) (int seed, int width, int height, int minMountainRadius, int maxMountainRadius, int minMountainDistance, int numSamplesBeforeAbort)
- [Mountains](#) (object[] args)
- override float [GenerateAtPosition](#) (int x, int y)

Additional Inherited Members

6.23.1 Constructor & Destructor Documentation

6.23.1.1 Mountains() [1/2]

```
Map.Mountains.Mountains (
    int seed,
    int width,
    int height,
    int minMountainRadius,
    int maxMountainRadius,
    int minMountainDistance,
    int numSamplesBeforeAbort ) [inline]
```

6.23.1.2 Mountains() [2/2]

```
Map.Mountains.Mountains (
    object[] args ) [inline]
```

6.23.2 Member Function Documentation

6.23.2.1 GenerateAtPosition()

```
override float Map.Mountains.GenerateAtPosition (
    int x,
    int y ) [inline], [virtual]
```

Reimplemented from [Map.SubNoiseGenerator](#).

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

- [Map/SubNoiseGenerator.cs](#)

6.24 SpaceRts.Noise.Noise2d Class Reference

Public Member Functions

- [Noise2d](#) (int seed)
- void [Reseed](#) ()
- float [Noise](#) (float x, float y)
- float[] [GenerateNoiseMap](#) (int w, int h, float frequency, float amplitude)

Private Member Functions

- void [CalculatePermutation](#) (out int[] p)
- void [CalculateGradients](#) (out Vector2[] grad)
- float [Drop](#) (float t)
- float [Q](#) (float u, float v)

Private Attributes

- int[] [_permutation](#)
- Vector2[] [_gradients](#)
- Random [Random](#)

6.24.1 Constructor & Destructor Documentation

6.24.1.1 Noise2d()

```
SpaceRts.Noise.Noise2d.Noise2d (  
    int seed ) [inline]
```

6.24.2 Member Function Documentation

6.24.2.1 CalculateGradients()

```
void SpaceRts.Noise.Noise2d.CalculateGradients (  
    out Vector2[] grad ) [inline], [private]
```

6.24.2.2 CalculatePermutation()

```
void SpaceRts.Noise.Noise2d.CalculatePermutation (
    out int[] p ) [inline], [private]
```

6.24.2.3 Drop()

```
float SpaceRts.Noise.Noise2d.Drop (
    float t ) [inline], [private]
```

6.24.2.4 GenerateNoiseMap()

```
float [ ] SpaceRts.Noise.Noise2d.GenerateNoiseMap (
    int w,
    int h,
    float frequency,
    float amplitude ) [inline]
```

6.24.2.5 Noise()

```
float SpaceRts.Noise.Noise2d.Noise (
    float x,
    float y ) [inline]
```

6.24.2.6 Q()

```
float SpaceRts.Noise.Noise2d.Q (
    float u,
    float v ) [inline], [private]
```

6.24.2.7 Reseed()

```
void SpaceRts.Noise.Noise2d.Reseed ( ) [inline]
```

6.24.3 Member Data Documentation

6.24.3.1 `_gradients`

```
Vector2 [] SpaceRts.Noise.Noise2d._gradients [private]
```

6.24.3.2 `_permutation`

```
int [] SpaceRts.Noise.Noise2d._permutation [private]
```

6.24.3.3 `Random`

```
Random SpaceRts.Noise.Noise2d.Random [private]
```

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

- [Noise/Noise2d.cs](#)

6.25 Map.NoiseGenerator Class Reference

Public Types

- enum [BiomeType](#) {
 [BiomeType.LavaLake](#), [BiomeType.BurningGround](#), [BiomeType.Ashes](#), [BiomeType.VolcanicMountains](#),
 [BiomeType.Oasis](#), [BiomeType.DryLand](#), [BiomeType.DryPlains](#), [BiomeType.DryMountains](#),
 [BiomeType.WaterLake](#), [BiomeType.RockyBeach](#), [BiomeType.SmallRocks](#), [BiomeType.Rock](#),
 [BiomeType.RockyMountains](#), [BiomeType.Ocean](#), [BiomeType.Shallows](#), [BiomeType.Beach](#),
 [BiomeType.Plains](#), [BiomeType.Hills](#), [BiomeType.Mountains](#), [BiomeType.FrozenLake](#),
 [BiomeType.FrozenLand](#), [BiomeType.FrozenMountains](#), [BiomeType.Gas](#), [BiomeType.END_VALUE](#) }

Public Member Functions

- [NoiseGenerator](#) (PlanetTypes planetType, int seed, int width, int height)
- [float GenerateAtPosition](#) (int x, int y)
- [float GenerateAtPosition](#) (int i)
- [float TryGenerateAtIndex](#) (int i, out bool success)
- [float GenerateIrregularityAtPosition](#) (int i, int x)
- [BiomeType BiomeAtLocation](#) (int x, int y)
- [BiomeType BiomeAtIndex](#) (int i)

Static Public Member Functions

- static void [LoadTextures](#) (ContentManager content)

Public Attributes

- PlanetTypes [PlanetType](#)
- int [Seed](#)
- float[] [noiseMap](#)
- float [Min](#)
- float[][] [noiseIrregularityMap](#)
- float[] [biomeNoiseMap](#)

Static Public Attributes

- static float
- static Texture2D[] [Textures](#) = new Texture2D[(int)BiomeType.END_VALUE]
- const float [IREGULARITY_FREQUENCY](#) = 10f

Private Attributes

- [SubNoiseGenerator](#)[] [SubNoiseGenerators](#)
- int [Width](#)
- int [Height](#)
- float [Max](#)

Static Private Attributes

- static float[] [frequencyList](#)
- static float[] [amplitudesList](#)
- static int[] [minMountainRadiusList](#)
- static int[] [maxMountainRadiusList](#)
- static int[] [minMountainDistanceList](#)
- static Type[][] [noiseGenerators](#)
- static [BiomeType](#)[][] [biomeValues](#)
- static float[][] [ConstructedBiomeValues](#) = new float[biomeValues.Length][]
- const float [IREGULARITY_AMPLITUDE](#) = 10f

6.25.1 Member Enumeration Documentation

Enumerator

6.25.1.1 BiomeType

enum `Map.NoiseGenerator.BiomeType` `[strong]`

Enumerator

| | |
|-------------------|--|
| LavaLake | |
| BurningGround | |
| Ashes | |
| VolcanicMountains | |
| Oasis | |
| DryLand | |
| DryPlains | |
| DryMountains | |
| WaterLake | |
| RockyBeach | |
| SmallRocks | |
| Rock | |
| RockyMountains | |
| Ocean | |
| Shallows | |
| Beach | |
| Plains | |
| Hills | |
| Mountains | |
| FrozenLake | |
| FrozenLand | |
| FrozenMountains | |
| Gas | |
| END_VALUE | |

6.25.2 Constructor & Destructor Documentation

6.25.2.1 NoiseGenerator()

```
Map.NoiseGenerator.NoiseGenerator (
    PlanetTypes planetType,
    int seed,
    int width,
    int height ) [inline]
```

6.25.3 Member Function Documentation

6.25.3.1 BiomeAtIndex()

```
BiomeType Map.NoiseGenerator.BiomeAtIndex (
    int i ) [inline]
```

6.25.3.2 BiomeAtLocation()

```
BiomeType Map.NoiseGenerator.BiomeAtLocation (
    int x,
    int y ) [inline]
```

6.25.3.3 GenerateAtPosition() [1/2]

```
float Map.NoiseGenerator.GenerateAtPosition (
    int i ) [inline]
```

6.25.3.4 GenerateAtPosition() [2/2]

```
float Map.NoiseGenerator.GenerateAtPosition (
    int x,
    int y ) [inline]
```

6.25.3.5 GenerateIrregularityAtPosition()

```
float Map.NoiseGenerator.GenerateIrregularityAtPosition (
    int i,
    int x ) [inline]
```

6.25.3.6 LoadTextures()

```
static void Map.NoiseGenerator.LoadTextures (
    ContentManager content ) [inline], [static]
```

6.25.3.7 TryGenerateAtIndex()

```
float Map.NoiseGenerator.TryGenerateAtIndex (
    int i,
    out bool success ) [inline]
```

6.25.4 Member Data Documentation

6.25.4.1 amplitudesList

```
float [ ] Map.NoiseGenerator.amplitudesList [static], [private]
```

Initial value:

```
=
{
    3f,
    2f,
    5f,
    2f,
    0.5f,
    0.2f
}
```

6.25.4.2 biomeNoiseMap

```
float [ ] Map.NoiseGenerator.biomeNoiseMap
```

6.25.4.3 biomeValues

```
BiomeType [ ][ ] Map.NoiseGenerator.biomeValues [static], [private]
```

Initial value:

```
= {
    new (float, BiomeType)[] { (0.0f, BiomeType.LavaLake), (0.2f, BiomeType.BurningGround), (0.6f,
    BiomeType.Ashes), (0.9f, BiomeType.VolcanicMountains) },
    new (float, BiomeType)[] { (0.0f, BiomeType.Oasis), (0.15f, BiomeType.DryLand), (0.4f,
    BiomeType.DryPlains), (0.9f, BiomeType.DryMountains) },
    new (float, BiomeType)[] { (0.0f, BiomeType.WaterLake), (0.1f, BiomeType.RockyBeach), (0.3f,
    BiomeType.SmallRocks), (0.5f, BiomeType.Rock), (0.9f, BiomeType.RockyMountains) },
    new (float, BiomeType)[] { (0.0f, BiomeType.Ocean), (0.30f, BiomeType.Shallows), (0.35f,
    BiomeType.Beach), (0.45f, BiomeType.Plains), (0.7f, BiomeType.Hills), (0.9f, BiomeType.Mountains) },
    new (float, BiomeType)[] { (0.0f, BiomeType.FrozenLake), (0.3f, BiomeType.FrozenLand), (0.8f,
    BiomeType.FrozenMountains) },
    new (float, BiomeType)[] { (0.0f, BiomeType.Gas) },
}
```

6.25.4.4 ConstructedBiomeValues

```
float [][] Map.NoiseGenerator.ConstructedBiomeValues = new float[biomeValues.Length][] [static],  
[private]
```

6.25.4.5 float

```
Map.NoiseGenerator.float [static]
```

6.25.4.6 frequencyList

```
float [] Map.NoiseGenerator.frequencyList [static], [private]
```

Initial value:

```
= {  
    2f,  
    3f,  
    5f,  
    3f,  
    0.5f,  
    0.2f  
}
```

6.25.4.7 Height

```
int Map.NoiseGenerator.Height [private]
```

6.25.4.8 IREGULARITY_FREQUENCY

```
const float Map.NoiseGenerator.IREGULARITY_FREQUENCY = 10f [static]
```

6.25.4.9 IREGULARITY_AMPLITUDE

```
const float Map.NoiseGenerator.IREGULARITY_AMPLITUDE = 10f [static], [private]
```

6.25.4.10 Max

```
float Map.NoiseGenerator.Max [private]
```

6.25.4.11 maxMountainRadiusList

```
int [] Map.NoiseGenerator.maxMountainRadiusList [static], [private]
```

Initial value:

```
=  
{  
    5,  
    4,  
    8,  
    5,  
    4,  
    41  
}
```

6.25.4.12 Min

```
float Map.NoiseGenerator.Min
```

6.25.4.13 minMountainRadiusList

```
int [] Map.NoiseGenerator.minMountainRadiusList [static], [private]
```

Initial value:

```
=  
{  
    1,  
    1,  
    4,  
    2,  
    2,  
    40  
}
```

6.25.4.14 minMuntainDistanceList

```
int [] Map.NoiseGenerator.minMuntainDistanceList [static], [private]
```

Initial value:

```
=  
{  
    10,  
    15,  
    8,  
    14,  
    15,  
    40  
}
```

6.25.4.15 noiseGenerators

```
Type [][] Map.NoiseGenerator.noiseGenerators [static], [private]
```

Initial value:

```
= {
    new Type[] {typeof(Hills),   typeof(Mountains), },
    new Type[] {typeof(Hills),   typeof(Mountains), },
    new Type[] {typeof(Hills),   typeof(Mountains), },
    new Type[] {typeof(Hills),   typeof(Mountains), },
    new Type[] {typeof(Hills),   typeof(Mountains), },
    new Type[] {typeof(Hills),   typeof(Mountains), },
}
```

6.25.4.16 noiseIrregularityMap

```
float [][] Map.NoiseGenerator.noiseIrregularityMap
```

6.25.4.17 noiseMap

```
float [] Map.NoiseGenerator.noiseMap
```

6.25.4.18 PlanetType

```
PlanetTypes Map.NoiseGenerator.PlanetType
```

6.25.4.19 Seed

```
int Map.NoiseGenerator.Seed
```

6.25.4.20 SubNoiseGenerators

```
SubNoiseGenerator [] Map.NoiseGenerator.SubNoiseGenerators [private]
```

6.25.4.21 Textures

```
Texture2D [] Map.NoiseGenerator.Textures = new Texture2D[(int)BiomeType.END_VALUE] [static]
```

6.25.4.22 Width

```
int Map.NoiseGenerator.Width [private]
```

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

- Map/[NoiseGenerator.cs](#)

6.26 SpaceRts.Util.ObjectSerialization Class Reference

Static Public Member Functions

- static byte[] [ObjectToByteArray](#) (object obj)
- static object [ByteArrayToObject](#) (byte[] arrBytes)

6.26.1 Member Function Documentation

6.26.1.1 ByteArrayToObject()

```
static object SpaceRts.Util.ObjectSerialization.ByteArrayToObject (  
    byte[] arrBytes ) [inline], [static]
```

6.26.1.2 ObjectToByteArray()

```
static byte [] SpaceRts.Util.ObjectSerialization.ObjectToByteArray (  
    object obj ) [inline], [static]
```

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

- Util/[ObjectSerialization.cs](#)

6.27 SpaceRts.OddQ Class Reference

Public Member Functions

- [OddQ](#) (int c, int r)
- [OddQ](#) ([Cube](#) cube)

Public Attributes

- `int C`

Private Attributes

- `int R`

6.27.1 Constructor & Destructor Documentation

6.27.1.1 OddQ() [1/2]

```
SpaceRts.OddQ.OddQ (  
    int c,  
    int r ) [inline]
```

6.27.1.2 OddQ() [2/2]

```
SpaceRts.OddQ.OddQ (  
    Cube cube ) [inline]
```

6.27.2 Member Data Documentation

6.27.2.1 C

```
int SpaceRts.OddQ.C
```

6.27.2.2 R

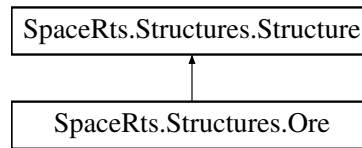
```
int SpaceRts.OddQ.R [private]
```

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

- `Coordinate/Coordinate.cs`

6.28 SpaceRts.Structures.Ore Class Reference

Inheritance diagram for SpaceRts.Structures.Ore:



Public Types

- enum [OreTypes](#) { [OreTypes.Green](#), [OreTypes.Blue](#), [OreTypes.Red](#) }

Public Member Functions

- [Ore](#) ([Cell](#) cell, [OreTypes](#) oreType)

Public Attributes

- [OreTypes](#) OreType

Static Public Attributes

- static string[] [OreNames](#) = { "Green", "Blue", "Red" }

6.28.1 Member Enumeration Documentation

6.28.1.1 OreTypes

```
enum SpaceRts.Structures.Ore.OreTypes [strong]
```

Enumerator

| | |
|-------|--|
| Green | |
| Blue | |
| Red | |

6.28.2 Constructor & Destructor Documentation

6.28.2.1 Ore()

```
SpaceRts.Structures.Ore.Ore (
    Cell cell,
    OreTypes oreType ) [inline]
```

6.28.3 Member Data Documentation

6.28.3.1 OreNames

```
string [] SpaceRts.Structures.Ore.OreNames = { "Green", "Blue", "Red" } [static]
```

6.28.3.2 OreType

```
OreTypes SpaceRts.Structures.Ore.OreType
```

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

- Structures/[Ore.cs](#)

6.29 SpaceRts.Planet Class Reference

Public Types

- enum [PlanetTypes](#) {
 [PlanetTypes.Magma](#), [PlanetTypes.Desert](#), [PlanetTypes.Rocky](#), [PlanetTypes.Terran](#),
 [PlanetTypes.Cold](#), [PlanetTypes.Gas](#) }
- enum [PlanetSizes](#) { [PlanetSizes.Small](#), [PlanetSizes.Medium](#), [PlanetSizes.Large](#) }

Public Member Functions

- [Planet](#) (int id, int seed, GraphicsDeviceManager graphics, [PlanetTypes](#) planetType, [PlanetSizes](#) planetSize)
- [Cell GetCellAtPosition](#) (Vector2 position)
- [Cell GetCellAtPosition](#) (int x, int y)
- void [Update](#) ()
- void [SelectedUpdate](#) ()
- void [Draw](#) (SpriteBatch spriteBatch, GraphicsDeviceManager graphics, [Camera](#) camera)

Static Public Member Functions

- static void [LoadContent](#) (ContentManager content)
- static int [FindGradientValueIndex](#) (int search, float value)

Public Attributes

- [PlanetTypes](#) [PlanetType](#)
- [PlanetSizes](#) [PlanetSize](#)
- [int](#) [Id](#)

Static Public Attributes

- [static](#) [int](#)[][] [PlanetSizeDimensions](#) = { [new](#) [int](#)[] { 5, 5 }, [new](#) [int](#)[] { 8, 8 }, [new](#) [int](#)[] { 12, 12 } }
- [static](#) [Color](#)[][] [GradientColors](#) = [new](#) [Color](#)[][] { [new](#) [Color](#)[6] { [Color](#).Yellow, [Color](#).Orange, [Color](#).Red, [Color](#).DarkRed, [Color](#).Gray, [Color](#).Black } }
- [static](#) [float](#)[][] [GradientValues](#) = [new](#) [float](#)[][] { [new](#) [float](#)[6] { 0, 0.1f, 0.2f, 0.3f, 0.5f, 0.7f } }

Private Attributes

- [int](#) [ChunksWidth](#)
- [int](#) [ChunksHeight](#)
- [int](#) [CellsWidth](#)
- [int](#) [CellsHeight](#)
- [NoiseGenerator](#) [noiseGenerator](#)
- [Map.Map](#) [Map](#)
- [List](#)< [Structure](#) > [Structures](#) = [new](#) [List](#)<[Structure](#)>()

Static Private Attributes

- [const](#) [int](#) [CHUNK_WIDTH](#) = 16
- [const](#) [int](#) [CHUNK_HEIGHT](#) = 16
- [static](#) [Effect](#) [effect](#)

6.29.1 Member Enumeration Documentation

6.29.1.1 PlanetSizes

```
enum SpaceRts.Planet.PlanetSizes [strong]
```

Enumerator

| | |
|--------|--|
| Small | |
| Medium | |
| Large | |

6.29.1.2 PlanetTypes

```
enum SpaceRts.Planet.PlanetTypes [strong]
```

Enumerator

| | |
|--------|--|
| Magma | |
| Desert | |
| Rocky | |
| Terran | |
| Cold | |
| Gas | |

6.29.2 Constructor & Destructor Documentation

6.29.2.1 Planet()

```
SpaceRts.Planet.Planet (  
    int id,  
    int seed,  
    GraphicsDeviceManager graphics,  
    PlanetTypes planetType,  
    PlanetSizes planetSize ) [inline]
```

6.29.3 Member Function Documentation

6.29.3.1 Draw()

```
void SpaceRts.Planet.Draw (  
    SpriteBatch spriteBatch,  
    GraphicsDeviceManager graphics,  
    Camera camera ) [inline]
```

6.29.3.2 FindGradientValueIndex()

```
static int SpaceRts.Planet.FindGradientValueIndex (  
    int search,  
    float value ) [inline], [static]
```

6.29.3.3 GetCellAtPosition() [1/2]

```
Cell SpaceRts.Planet.GetCellAtPosition (
    int x,
    int y ) [inline]
```

6.29.3.4 GetCellAtPosition() [2/2]

```
Cell SpaceRts.Planet.GetCellAtPosition (
    Vector2 position ) [inline]
```

6.29.3.5 LoadContent()

```
static void SpaceRts.Planet.LoadContent (
    ContentManager content ) [inline], [static]
```

6.29.3.6 SelectedUpdate()

```
void SpaceRts.Planet.SelectedUpdate ( ) [inline]
```

6.29.3.7 Update()

```
void SpaceRts.Planet.Update ( ) [inline]
```

6.29.4 Member Data Documentation

6.29.4.1 CellsHeight

```
int SpaceRts.Planet.CellsHeight [private]
```

6.29.4.2 CellsWidth

```
int SpaceRts.Planet.CellsWidth [private]
```

6.29.4.3 CHUNK_HEIGHT

```
const int SpaceRts.Planet.CHUNK_HEIGHT = 16 [static], [private]
```

6.29.4.4 CHUNK_WIDTH

```
const int SpaceRts.Planet.CHUNK_WIDTH = 16 [static], [private]
```

6.29.4.5 ChunksHeight

```
int SpaceRts.Planet.ChunksHeight [private]
```

6.29.4.6 ChunksWidth

```
int SpaceRts.Planet.ChunksWidth [private]
```

6.29.4.7 effect

```
Effect SpaceRts.Planet.effect [static], [private]
```

6.29.4.8 GradientColors

```
Color [][] SpaceRts.Planet.GradientColors = new Color[][] { new Color[6] { Color.Yellow,  
Color.Orange, Color.Red, Color.DarkRed, Color.Gray, Color.Black } } [static]
```

6.29.4.9 GradientValues

```
float [][] SpaceRts.Planet.GradientValues = new float[][] { new float[6] { 0, 0.1f, 0.2f,  
0.3f, 0.5f, 0.7f } } [static]
```

6.29.4.10 Id

```
int SpaceRts.Planet.Id
```

6.29.4.11 Map

```
Map.Map SpaceRts.Planet.Map [private]
```

6.29.4.12 noiseGenerator

```
NoiseGenerator SpaceRts.Planet.noiseGenerator [private]
```

6.29.4.13 PlanetSize

```
PlanetSizes SpaceRts.Planet.PlanetSize
```

6.29.4.14 PlanetSizeDimensions

```
int [][] SpaceRts.Planet.PlanetSizeDimensions = { new int[] { 5, 5 }, new int[] { 8, 8 },  
new int[] { 12, 12 } } [static]
```

6.29.4.15 PlanetType

```
PlanetTypes SpaceRts.Planet.PlanetType
```

6.29.4.16 Structures

```
List<Structure> SpaceRts.Planet.Structures = new List<Structure>() [private]
```

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

- [Planet.cs](#)

6.30 SpaceRts.Player Class Reference

Public Member Functions

- void [pay](#) (int price)

Private Attributes

- int [money](#) = 100
- int [resource](#) = 0

6.30.1 Member Function Documentation

6.30.1.1 [pay\(\)](#)

```
void SpaceRts.Player.pay (  
    int price ) [inline]
```

6.30.2 Member Data Documentation

6.30.2.1 [money](#)

```
int SpaceRts.Player.money = 100 [private]
```

6.30.2.2 [resource](#)

```
int SpaceRts.Player.resource = 0 [private]
```

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

- [Player.cs](#)

6.31 SpaceRts.Noise.PoissonSample Class Reference

Static Public Member Functions

- static List< Vector2 > [GeneratePoints](#) (Random random, float radius, Vector2 sampleRegionSize, int num← SamplesBeforeAbort=30)
- static bool [IsValid](#) (Vector2 candidate, Vector2 sampleRegionSize, float cellSize, float radius, List< Vector2 > points, int[,] grid)

6.31.1 Member Function Documentation

6.31.1.1 GeneratePoints()

```
static List<Vector2> SpaceRts.Noise.PoissonSample.GeneratePoints (
    Random random,
    float radius,
    Vector2 sampleRegionSize,
    int numSamplesBeforeAbort = 30 ) [inline], [static]
```

6.31.1.2 IsValid()

```
static bool SpaceRts.Noise.PoissonSample.IsValid (
    Vector2 candidate,
    Vector2 sampleRegionSize,
    float cellSize,
    float radius,
    List< Vector2 > points,
    int grid[,] ) [inline], [static]
```

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

- Noise/[PoissonSample.cs](#)

6.32 SpaceRts.SolarSystem Class Reference

Public Member Functions

- [SolarSystem](#) (int seed, GraphicsDeviceManager graphics, Vector2 position, [SolarSystem](#)[] connections, int numbnrOfPlanets)
- void [Update](#) ()
- void [Draw](#) (SpriteBatch spriteBatch, GraphicsDeviceManager graphics, [Camera](#) camera)

Public Attributes

- Vector2 [Position](#)
- [SolarSystem](#)[] [Connections](#)
- [Planet](#)[] [Planets](#)

6.32.1 Constructor & Destructor Documentation

6.32.1.1 SolarSystem()

```
SpaceRts.SolarSystem.SolarSystem (
    int seed,
    GraphicsDeviceManager graphics,
    Vector2 position,
    SolarSystem[] connections,
    int numbnerOfPlanets ) [inline]
```

6.32.2 Member Function Documentation

6.32.2.1 Draw()

```
void SpaceRts.SolarSystem.Draw (
    SpriteBatch spriteBatch,
    GraphicsDeviceManager graphics,
    Camera camera ) [inline]
```

6.32.2.2 Update()

```
void SpaceRts.SolarSystem.Update ( ) [inline]
```

6.32.3 Member Data Documentation

6.32.3.1 Connections

```
SolarSystem [ ] SpaceRts.SolarSystem.Connections
```

6.32.3.2 Planets

```
Planet [ ] SpaceRts.SolarSystem.Planets
```

6.32.3.3 Position

`Vector2 SpaceRts.SolarSystem.Position`

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

- [SolarSystem.cs](#)

6.33 SpaceRts.Space Class Reference

Public Member Functions

- [Space](#) (int GenerationSeed, [GameOptions](#) gameOptions, int numberOfPlayers, GraphicsDeviceManager graphics)
- void [Update](#) ()
- void [Draw](#) (SpriteBatch spriteBatch, GraphicsDeviceManager graphics, [Camera](#) camera)

Public Attributes

- Random [Random](#)
- [GameOptions](#) [GameOptions](#)
- [SolarSystem\[\]](#) [SolarSystems](#)
- int [NumberOfPlayers](#)
- [FogOfWar](#) [FogOfWar](#)

Static Public Attributes

- static int [ChunksDrawn](#) = 0
- static [SpriteFont](#) [spriteFont](#)

Private Member Functions

- void [GenerateSolarSystems](#) (GraphicsDeviceManager graphics, int seed)

Private Attributes

- Texture2D [temp](#)

6.33.1 Constructor & Destructor Documentation

6.33.1.1 Space()

```
SpaceRts.Space.Space (
    int GenerationSeed,
    GameOptions gameOptions,
    int numberOfPlayers,
    GraphicsDeviceManager graphics ) [inline]
```

6.33.2 Member Function Documentation

6.33.2.1 Draw()

```
void SpaceRts.Space.Draw (
    SpriteBatch spriteBatch,
    GraphicsDeviceManager graphics,
    Camera camera ) [inline]
```

6.33.2.2 GenerateSolarSystems()

```
void SpaceRts.Space.GenerateSolarSystems (
    GraphicsDeviceManager graphics,
    int seed ) [inline], [private]
```

6.33.2.3 Update()

```
void SpaceRts.Space.Update ( ) [inline]
```

6.33.3 Member Data Documentation

6.33.3.1 ChunksDrawn

```
int SpaceRts.Space.ChunksDrawn = 0 [static]
```

6.33.3.2 FogOfWar

`FogOfWar` `SpaceRts.Space.FogOfWar`

6.33.3.3 GameOptions

`GameOptions` `SpaceRts.Space.GameOptions`

6.33.3.4 NumberOfPlayers

`int` `SpaceRts.Space.NumberOfPlayers`

6.33.3.5 Random

`Random` `SpaceRts.Space.Random`

6.33.3.6 SolarSystems

`SolarSystem` `[]` `SpaceRts.Space.SolarSystems`

6.33.3.7 spriteFont

`SpriteFont` `SpaceRts.Space.spriteFont` `[static]`

6.33.3.8 temp

`Texture2D` `SpaceRts.Space.temp` `[private]`

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

- [Space.cs](#)

6.34 SpaceRts.SpaceUnit Class Reference

Public Member Functions

- [SpaceUnit](#) ()

6.34.1 Constructor & Destructor Documentation

6.34.1.1 SpaceUnit()

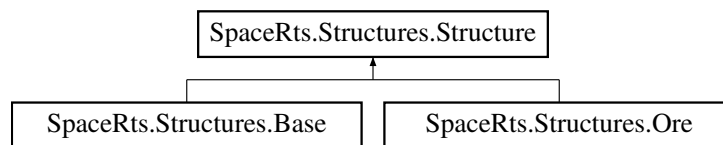
`SpaceRts.SpaceUnit.SpaceUnit () [inline]`

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

- [SpaceUnit.cs](#)

6.35 SpaceRts.Structures.Structure Class Reference

Inheritance diagram for SpaceRts.Structures.Structure:



Public Types

- enum [StructureTypes](#) { [StructureTypes.Base](#), [StructureTypes.Ore](#), [StructureTypes.Mine](#) }

Public Member Functions

- [Structure](#) ([StructureTypes](#) structureType, [Model](#) model, [Cell](#) cell, int cost, int prod, [Player](#) player)
- [Structure](#) ([Cell](#) cell, [Model](#) model, [StructureTypes](#) structureType)
- void [Build](#) ()
- int [Production](#) ()
- void [Update](#) (GameTime gameTime)
- void [Draw](#) (SpriteBatch spriteBatch, GraphicsDeviceManager graphics, [Camera](#) camera)

Public Attributes

- [Cell](#) Cell
- [Player](#) Player
- BoundingBox [BoundingBox](#)

Private Attributes

- int [Cost](#)
- int [Prod](#)
- Model [Model](#)
- [StructureTypes](#) [StructureType](#)

6.35.1 Member Enumeration Documentation

6.35.1.1 StructureTypes

```
enum SpaceRts.Structures.Structure.StructureTypes [strong]
```

Enumerator

| | |
|------|--|
| Base | |
| Ore | |
| Mine | |

6.35.2 Constructor & Destructor Documentation

6.35.2.1 Structure() [1/2]

```
SpaceRts.Structures.Structure.Structure (
    StructureTypes structureType,
    Model model,
    Cell cell,
    int cost,
    int prod,
    Player player ) [inline]
```

6.35.2.2 Structure() [2/2]

```
SpaceRts.Structures.Structure.Structure (
    Cell cell,
    Model model,
    StructureTypes structureType ) [inline]
```

6.35.3 Member Function Documentation

6.35.3.1 Build()

```
void SpaceRts.Structures.Structure.Build ( ) [inline]
```

6.35.3.2 Draw()

```
void SpaceRts.Structures.Structure.Draw (
    SpriteBatch spriteBatch,
    GraphicsDeviceManager graphics,
    Camera camera ) [inline]
```

6.35.3.3 Production()

```
int SpaceRts.Structures.Structure.Production ( ) [inline]
```

6.35.3.4 Update()

```
void SpaceRts.Structures.Structure.Update (
    GameTime gameTime ) [inline]
```

6.35.4 Member Data Documentation

6.35.4.1 BoundingBox

```
BoundingBox SpaceRts.Structures.Structure.BoundingBox
```

6.35.4.2 Cell

```
Cell SpaceRts.Structures.Structure.Cell
```

6.35.4.3 Cost

```
int SpaceRts.Structures.Structure.Cost [private]
```


6.35.4.4 Model

`Model SpaceRts.Structures.Structure.Model [private]`

6.35.4.5 Player

`Player SpaceRts.Structures.Structure.Player`

6.35.4.6 Prod

`int SpaceRts.Structures.Structure.Prod [private]`

6.35.4.7 StructureType

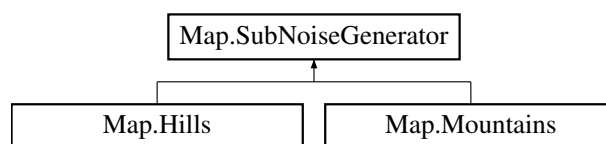
`StructureTypes SpaceRts.Structures.Structure.StructureType [private]`

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

- Structures/[Structure.cs](#)

6.36 Map.SubNoiseGenerator Class Reference

Inheritance diagram for Map.SubNoiseGenerator:



Public Member Functions

- [SubNoiseGenerator](#) (int seed, int width, int height)
- virtual float [GenerateAtPosition](#) (int x, int y)

Package Attributes

- int [Seed](#)
- int [Width](#)
- Random [Random](#)
- float[] [noiseMap](#)

Private Attributes

- int [Height](#)

6.36.1 Constructor & Destructor Documentation

6.36.1.1 SubNoiseGenerator()

```
Map.SubNoiseGenerator.SubNoiseGenerator (
    int seed,
    int width,
    int height ) [inline]
```

6.36.2 Member Function Documentation

6.36.2.1 GenerateAtPosition()

```
virtual float Map.SubNoiseGenerator.GenerateAtPosition (
    int x,
    int y ) [inline], [virtual]
```

Reimplemented in [Map.Mountains](#), and [Map.Hills](#).

6.36.3 Member Data Documentation

6.36.3.1 Height

```
int Map.SubNoiseGenerator.Height [private]
```

6.36.3.2 noiseMap

```
float [ ] Map.SubNoiseGenerator.noiseMap [package]
```

6.36.3.3 Random

`Random Map.SubNoiseGenerator.Random [package]`

6.36.3.4 Seed

`int Map.SubNoiseGenerator.Seed [package]`

6.36.3.5 Width

`int Map.SubNoiseGenerator.Width [package]`

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

- [Map/SubNoiseGenerator.cs](#)

6.37 SpaceRts.Unit.Unit Class Reference

Public Member Functions

- [Unit\(\)](#)

6.37.1 Constructor & Destructor Documentation

6.37.1.1 Unit()

`SpaceRts.Unit.Unit.Unit () [inline]`

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

- [Unit.cs](#)

6.38 Map.VertexColorGenerator Class Reference

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

- [Map/VertexColorGenerator.cs](#)

6.39 SpaceRts.Map.VertexPostionGenerator Class Reference

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

- [Map/VertexPostionGenerator.cs](#)

Chapter 7

File Documentation

7.1 Asteroid.cs File Reference

Classes

- class [SpaceRts.Asteroid](#)

Namespaces

- namespace [SpaceRts](#)

7.2 Camera.cs File Reference

Classes

- class [SpaceRts.Camera](#)

Namespaces

- namespace [SpaceRts](#)

7.3 Channels.cs File Reference

Classes

- class [SpaceRts.Channels.Channel](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Channels](#)

7.4 Cordinate/Cordinate.cs File Reference

Classes

- class [SpaceRts.Cube](#)
- class [SpaceRts.Axial](#)
- class [SpaceRts.OddQ](#)

Namespaces

- namespace [SpaceRts](#)

7.5 FogOfWar.cs File Reference

Classes

- class [SpaceRts.FogOfWar](#)

Namespaces

- namespace [SpaceRts](#)

7.6 Game1.cs File Reference

Classes

- class [BlackApp.Game1](#)
This is the main type for your game.

Namespaces

- namespace [BlackApp](#)

7.7 Global.cs File Reference

Classes

- class [SpaceRts.Global](#)
- class [SpaceRts.Models](#)

Namespaces

- namespace [SpaceRts](#)

7.8 Map/Cell.cs File Reference

Classes

- class [SpaceRts.Map.Cell](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Map](#)

7.9 Map/Chunk.cs File Reference

Classes

- class [SpaceRts.Map.Chunk](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Map](#)

7.10 Map/Map.cs File Reference

Classes

- class [SpaceRts.Map.Map](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Map](#)

7.11 Map/NoiseGenerator.cs File Reference

Classes

- class [Map.NoiseGenerator](#)

Namespaces

- namespace [Map](#)

7.12 Map/SubNoiseGenerator.cs File Reference

Classes

- class [Map.SubNoiseGenerator](#)
- class [Map.Hills](#)
- class [Map.Mountains](#)

Namespaces

- namespace [Map](#)

7.13 Map/VertexColorGenerator.cs File Reference

Classes

- class [Map.VertexColorGenerator](#)

Namespaces

- namespace [Map](#)

7.14 Map/VertexPostionGenerator.cs File Reference

Classes

- class [SpaceRts.Map.VertexPostionGenerator](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Map](#)

7.15 Noise/Noise2d.cs File Reference

Classes

- class [SpaceRts.Noise.Noise2d](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Noise](#)

7.16 Noise/PoissonSample.cs File Reference

Classes

- class [SpaceRts.Noise.PoissonSample](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Noise](#)

7.17 obj/Debug/netstandard2.0/SpaceRts.AssemblyInfo.cs File Reference

7.18 Planet.cs File Reference

Classes

- class [SpaceRts.Planet](#)

Namespaces

- namespace [SpaceRts](#)

7.19 PlanetChunk.cs File Reference

7.20 Player.cs File Reference

Classes

- class [SpaceRts.Player](#)

Namespaces

- namespace [SpaceRts](#)

7.21 SolarSystem.cs File Reference

Classes

- class [SpaceRts.SolarSystem](#)

Namespaces

- namespace [SpaceRts](#)

7.22 Space.cs File Reference

Classes

- class [SpaceRts.Space](#)

Namespaces

- namespace [SpaceRts](#)

7.23 SpaceUnit.cs File Reference

Classes

- class [SpaceRts.SpaceUnit](#)

Namespaces

- namespace [SpaceRts](#)

7.24 Structures/Base.cs File Reference

Classes

- class [SpaceRts.Structures.Base](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Structures](#)

7.25 Structures/Mine.cs File Reference

Classes

- class [SpaceRts.Structures.Mine](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Structures](#)

7.26 Structures/Ore.cs File Reference

Classes

- class [SpaceRts.Structures.Ore](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Structures](#)

7.27 Structures/Structure.cs File Reference

Classes

- class [SpaceRts.Structures.Structure](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Structures](#)

7.28 Unit.cs File Reference

Classes

- class [SpaceRts.Unit.Unit](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Unit](#)

7.29 Units/BasicUnit.cs File Reference

Classes

- class [SpaceRts.Unit.BasicUnit](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Unit](#)

7.30 Util/FrameCounter.cs File Reference

Classes

- class [SpaceRts.Util.FrameCounter](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Util](#)

7.31 Util/GameOptions.cs File Reference

Classes

- class [SpaceRts.Util.GameOptions](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Util](#)

Enumerations

- enum [SpaceRts.Util.NumberOfSolarSystems](#) { [SpaceRts.Util.NumberOfSolarSystems.Low](#), [SpaceRts.Util.NumberOfSolarSystems.High](#) }
- enum [SpaceRts.Util.NumberOfPlantes](#) { [SpaceRts.Util.NumberOfPlantes.Low](#), [SpaceRts.Util.NumberOfPlantes.Normal](#), [SpaceRts.Util.NumberOfPlantes.High](#) }
- enum [SpaceRts.Util.GameSpeed](#) { [SpaceRts.Util.GameSpeed.Slow](#), [SpaceRts.Util.GameSpeed.Normal](#), [SpaceRts.Util.GameSpeed.Fast](#) }

7.32 Util/HexagonalBounding.cs File Reference

Classes

- class [SpaceRts.Util.HexagonalBounding](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Util](#)

7.33 Util/Lobby.cs File Reference

Classes

- class [SpaceRts.Util.LobbyData](#)
- class [SpaceRts.Util.ChatEntry](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Util](#)

7.34 Util/MathExtended.cs File Reference

Classes

- class [SpaceRts.Util.MathExtended](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Util](#)

7.35 Util/ObjectSerialization.cs File Reference

Classes

- class [SpaceRts.Util.ObjectSerialization](#)

Namespaces

- namespace [SpaceRts](#)
- namespace [SpaceRts.Util](#)

Index

- [_gradients](#)
 - [SpaceRts.Noise.Noise2d](#), [56](#)
 - [_permutation](#)
 - [SpaceRts.Noise.Noise2d](#), [57](#)
 - [_sampleBuffer](#)
 - [SpaceRts.Util.FrameCounter](#), [40](#)
- [adjacentsEven](#)
 - [SpaceRts.Map.Cell](#), [21](#)
- [adjacentsOdd](#)
 - [SpaceRts.Map.Cell](#), [22](#)
- [amplitudesList](#)
 - [Map.NoiseGenerator](#), [61](#)
- [Ashes](#)
 - [Map.NoiseGenerator](#), [59](#)
- [AssignUnit](#)
 - [SpaceRts.Channels.Channel](#), [26](#)
- [Asteroid](#)
 - [SpaceRts.Asteroid](#), [13](#)
- [Asteroid.cs](#), [87](#)
- [Auth](#)
 - [SpaceRts.Channels.Channel](#), [26](#)
- [AuthChannel](#)
 - [SpaceRts.Channels.Channel](#), [26](#)
- [AverageFramesPerSecond](#)
 - [SpaceRts.Util.FrameCounter](#), [40](#)
- [Axial](#)
 - [SpaceRts.Axial](#), [14](#)
- [Baracks](#)
 - [SpaceRts.Channels.Channel](#), [27](#)
- [Base](#)
 - [SpaceRts.Channels.Channel](#), [27](#)
 - [SpaceRts.Models](#), [53](#)
 - [SpaceRts.Structures.Base](#), [16](#)
 - [SpaceRts.Structures.Structure](#), [81](#)
- [BasicUnit](#)
 - [SpaceRts.Unit.BasicUnit](#), [16](#)
- [Beach](#)
 - [Map.NoiseGenerator](#), [59](#)
- [BiomeAtIndex](#)
 - [Map.NoiseGenerator](#), [59](#)
- [BiomeAtLocation](#)
 - [Map.NoiseGenerator](#), [60](#)
- [biomeNoiseMap](#)
 - [Map.NoiseGenerator](#), [61](#)
- [Biomes](#)
 - [SpaceRts.Map.Chunk](#), [31](#)
- [BiomeType](#)
 - [Map.NoiseGenerator](#), [58](#)

- [biomeValues](#)
 - [Map.NoiseGenerator](#), [61](#)
- [BlackApp](#), [9](#)
- [BlackApp.Game1](#), [41](#)
 - [Draw](#), [42](#)
 - [Game1](#), [42](#)
 - [graphics](#), [43](#)
 - [Initialize](#), [42](#)
 - [LoadContent](#), [42](#)
 - [spriteBatch](#), [43](#)
 - [Update](#), [42](#)
- [Blue](#)
 - [SpaceRts.Structures.Ore](#), [67](#)
- [bounding](#)
 - [SpaceRts.Map.Cell](#), [22](#)
- [BoundingBox](#)
 - [SpaceRts.Map.Chunk](#), [31](#)
 - [SpaceRts.Structures.Structure](#), [82](#)
- [BoundingBoxes](#)
 - [SpaceRts.Util.HexagonalBounding](#), [46](#)
- [Build](#)
 - [SpaceRts.Structures.Structure](#), [81](#)
- [BurningGround](#)
 - [Map.NoiseGenerator](#), [59](#)
- [ByteArrayToObject](#)
 - [SpaceRts.Util.ObjectSerialization](#), [65](#)
- [C](#)
 - [SpaceRts.OddQ](#), [66](#)
- [calculatedCorners](#)
 - [SpaceRts.Map.Cell](#), [22](#)
- [CalculateGradients](#)
 - [SpaceRts.Noise.Noise2d](#), [55](#)
- [CalculatePermutation](#)
 - [SpaceRts.Noise.Noise2d](#), [55](#)
- [Camera](#)
 - [SpaceRts.Camera](#), [17](#)
 - [SpaceRts.Global](#), [44](#)
- [Camera.cs](#), [87](#)
- [Cell](#)
 - [SpaceRts.Map.Cell](#), [20](#)
 - [SpaceRts.Structures.Structure](#), [82](#)
- [CellAtPosition](#)
 - [SpaceRts.Map.Map](#), [50](#)
- [Cells](#)
 - [SpaceRts.Map.Chunk](#), [31](#)
- [CellsHeight](#)
 - [SpaceRts.Planet](#), [71](#)
- [CellsWidth](#)
 - [SpaceRts.Planet](#), [71](#)

- CHANNEL_SIZE
 - SpaceRts.Channels.Channel, 28
- Channels
 - SpaceRts.Channels.Channel, 26
- Channels.cs, 87
- Chat
 - SpaceRts.Channels.Channel, 27
 - SpaceRts.Util.LobbyData, 48
- ChatEntry
 - SpaceRts.Util.ChatEntry, 28
- Chunk
 - SpaceRts.Map.Chunk, 30
 - SpaceRts.Map.Map, 50
- CHUNK_HEIGHT
 - SpaceRts.Planet, 71
- CHUNK_WIDTH
 - SpaceRts.Planet, 72
- ChunkHeight
 - SpaceRts.Map.Map, 51
- Chunks
 - SpaceRts.Map.Map, 51
- ChunksDrawn
 - SpaceRts.Space, 78
- ChunksHeight
 - SpaceRts.Planet, 72
- ChunksWidth
 - SpaceRts.Planet, 72
- ChunkWidth
 - SpaceRts.Map.Map, 51
- ChunkX
 - SpaceRts.Map.Chunk, 31
- ChunkY
 - SpaceRts.Map.Chunk, 32
- ClickRay
 - SpaceRts.Global, 44
- Cold
 - SpaceRts.Planet, 70
- colorAtHeight
 - SpaceRts.Map.Cell, 21
- ConfirmBuild
 - SpaceRts.Channels.Channel, 26
- ConfirmResourceCount
 - SpaceRts.Channels.Channel, 26
- Connections
 - SpaceRts.SolarSystem, 76
- ConstructedBiomeValues
 - Map.NoiseGenerator, 61
- Conveyor
 - SpaceRts.Channels.Channel, 27
- Cordinate/Cordinate.cs, 88
- CornerColors
 - SpaceRts.Map.Chunk, 32
- corners
 - SpaceRts.Map.Cell, 22
- Cost
 - SpaceRts.Structures.Structure, 82
- Create
 - SpaceRts.Channels.Channel, 27
- Cube
 - SpaceRts.Cube, 34
- CurrentFramesPerSecond
 - SpaceRts.Util.FrameCounter, 40
- Desert
 - SpaceRts.Planet, 70
- Draw
 - BlackApp.Game1, 42
 - SpaceRts.FogOfWar, 37
 - SpaceRts.Map.Chunk, 30
 - SpaceRts.Map.Map, 50
 - SpaceRts.Planet, 70
 - SpaceRts.SolarSystem, 76
 - SpaceRts.Space, 78
 - SpaceRts.Structures.Structure, 82
- drawCenter
 - SpaceRts.Map.Cell, 22
- DrawOnTop
 - SpaceRts.Map.Cell, 21
- Drop
 - SpaceRts.Noise.Noise2d, 56
- DryLand
 - Map.NoiseGenerator, 59
- DryMountains
 - Map.NoiseGenerator, 59
- DryPlains
 - Map.NoiseGenerator, 59
- effect
 - SpaceRts.FogOfWar, 37
 - SpaceRts.Map.Chunk, 32
 - SpaceRts.Planet, 72
- END_VALUE
 - Map.NoiseGenerator, 59
- Farm
 - SpaceRts.Channels.Channel, 27
- Fast
 - SpaceRts.Util, 11
- FindGradientValueIndex
 - SpaceRts.Planet, 70
- float
 - Map.NoiseGenerator, 62
- FogOfWar
 - SpaceRts.FogOfWar, 37
 - SpaceRts.Space, 78
- FogOfWar.cs, 88
- Frack
 - SpaceRts.Channels.Channel, 27
- FrameCounter
 - SpaceRts.Util.FrameCounter, 39
- frequencyList
 - Map.NoiseGenerator, 62
- FrozenLake
 - Map.NoiseGenerator, 59
- FrozenLand
 - Map.NoiseGenerator, 59
- FrozenMountains

- Map.NoiseGenerator, 59
- Frustum
 - SpaceRts.Camera, 18
- Game
 - SpaceRts.Channels.Channel, 26
- Game1
 - BlackApp.Game1, 42
- Game1.cs, 88
- GameChannel
 - SpaceRts.Channels.Channel, 26
- GameOptions
 - SpaceRts.Space, 79
 - SpaceRts.Util.GameOptions, 43
- GameSpeed
 - SpaceRts.Util, 11
 - SpaceRts.Util.GameOptions, 44
- Gas
 - Map.NoiseGenerator, 59
 - SpaceRts.Planet, 70
- GenerateAtPosition
 - Map.Hills, 47
 - Map.Mountains, 54
 - Map.NoiseGenerator, 60
 - Map.SubNoiseGenerator, 84
- GenerateIrregularityAtPosition
 - Map.NoiseGenerator, 60
- GenerateMesh
 - SpaceRts.Map.Cell, 21
- GenerateNoiseMap
 - SpaceRts.Noise.Noise2d, 56
- GeneratePoints
 - SpaceRts.Noise.PoissonSample, 75
- GenerateSolarSystems
 - SpaceRts.Space, 78
- GetCellAtPosition
 - SpaceRts.Planet, 70, 71
- Global.cs, 88
- GradientColors
 - SpaceRts.Planet, 72
- GradientIndex
 - SpaceRts.Util.MathExtended, 52
- GradientValues
 - SpaceRts.Planet, 72
- graphics
 - BlackApp.Game1, 43
- graphicsDevice
 - SpaceRts.Camera, 18
- Green
 - SpaceRts.Structures.Ore, 67
- Height
 - Map.NoiseGenerator, 62
 - Map.SubNoiseGenerator, 84
 - SpaceRts.FogOfWar, 38
 - SpaceRts.Map.Chunk, 32
 - SpaceRts.Map.Map, 51
- HEIGHT_CHANGE_INSET_SCALE
 - SpaceRts.Map.Cell, 23
- HEIGHT_CHANGE_NUMBER_OF_TERRACES
 - SpaceRts.Map.Cell, 23
- HEIGHT_CHANGE_SLOPE_INSET
 - SpaceRts.Map.Cell, 23
- HEIGHT_CHANGE_TERRACE_SCALE
 - SpaceRts.Map.Cell, 23
- HEIGHT_SCALE
 - SpaceRts.Map.Cell, 23
- HEIGHT_SIZE_FALLOFF
 - SpaceRts.Map.Chunk, 32
- HexagonalBounding
 - SpaceRts.Util.HexagonalBounding, 46
- High
 - SpaceRts.Util, 12
- Hills
 - Map.Hills, 47
 - Map.NoiseGenerator, 59
- Housing
 - SpaceRts.Channels.Channel, 27
- ID
 - SpaceRts.Util.LobbyData, 48
- Id
 - SpaceRts.Channels.Channel, 26
 - SpaceRts.Planet, 72
- Indices
 - SpaceRts.Map.Chunk, 32
- Initialize
 - BlackApp.Game1, 42
- innerRadius
 - SpaceRts.Map.Cell, 23
- Intersect
 - SpaceRts.Map.Chunk, 30
 - SpaceRts.Map.Map, 50
- Intersects
 - SpaceRts.Map.Cell, 21
 - SpaceRts.Map.Chunk, 31
 - SpaceRts.Util.HexagonalBounding, 46
- Invite
 - SpaceRts.Channels.Channel, 27
- IREGULARITY_FREQUENCY
 - Map.NoiseGenerator, 62
- IREGULARITY_AMPLITUDE
 - Map.NoiseGenerator, 62
- IREGULARITY_VECTOR
 - SpaceRts.Map.Chunk, 32
- IsValid
 - SpaceRts.Noise.PoissonSample, 75
- Join
 - SpaceRts.Channels.Channel, 27
- KeyboardState
 - SpaceRts.Global, 45
- Kick
 - SpaceRts.Channels.Channel, 27
- Lab
 - SpaceRts.Channels.Channel, 27

- Large
 - SpaceRts.Planet, 69
- LaunchPad
 - SpaceRts.Channels.Channel, 27
- LavaLake
 - Map.NoiseGenerator, 59
- List< Color >
 - SpaceRts.Map.Cell, 23
- List< Vector2 >
 - SpaceRts.Map.Cell, 24
- List< Vector3 >
 - SpaceRts.Map.Cell, 24
- Load
 - SpaceRts.Models, 53
- LoadContent
 - BlackApp.Game1, 42
 - SpaceRts.FogOfWar, 37
 - SpaceRts.Map.Chunk, 31
 - SpaceRts.Planet, 71
- LoadTextures
 - Map.NoiseGenerator, 60
- Lobby
 - SpaceRts.Channels.Channel, 26
- LobbyChannel
 - SpaceRts.Channels.Channel, 27
- LobbyData
 - SpaceRts.Util.LobbyData, 48
- lookAtVector
 - SpaceRts.Camera, 18
- Low
 - SpaceRts.Util, 12
- Magma
 - SpaceRts.Planet, 70
- Map, 9
 - SpaceRts.Map.Map, 49
 - SpaceRts.Planet, 73
- Map.Hills, 46
 - GenerateAtPosition, 47
 - Hills, 47
- Map.Mountains, 53
 - GenerateAtPosition, 54
 - Mountains, 54
- Map.NoiseGenerator, 57
 - amplitudesList, 61
 - Ashes, 59
 - Beach, 59
 - BiomeAtIndex, 59
 - BiomeAtLocation, 60
 - biomeNoiseMap, 61
 - BiomeType, 58
 - biomeValues, 61
 - BurningGround, 59
 - ConstructedBiomeValues, 61
 - DryLand, 59
 - DryMountains, 59
 - DryPlains, 59
 - END_VALUE, 59
 - float, 62
 - frequencyList, 62
 - FrozenLake, 59
 - FrozenLand, 59
 - FrozenMountains, 59
 - Gas, 59
 - GenerateAtPosition, 60
 - GenerateIrregularityAtPosition, 60
 - Height, 62
 - Hills, 59
 - IREGUALRITY_FREQUENCY, 62
 - IREGULARITY_AMPLITUDE, 62
 - LavaLake, 59
 - LoadTextures, 60
 - Max, 62
 - maxMountainRadiusList, 62
 - Min, 63
 - minMountainRadiusList, 63
 - minMuntainDistanceList, 63
 - Mountains, 59
 - NoiseGenerator, 59
 - noiseGenerators, 63
 - noiseIrregularityMap, 64
 - noiseMap, 64
 - Oasis, 59
 - Ocean, 59
 - Plains, 59
 - PlanetType, 64
 - Rock, 59
 - RockyBeach, 59
 - RockyMountains, 59
 - Seed, 64
 - Shallows, 59
 - SmallRocks, 59
 - SubNoiseGenerators, 64
 - Textures, 64
 - TryGenerateAtIndex, 60
 - VolcanicMountains, 59
 - WaterLake, 59
 - Width, 64
- Map.SubNoiseGenerator, 83
 - GenerateAtPosition, 84
 - Height, 84
 - noiseMap, 84
 - Random, 84
 - Seed, 85
 - SubNoiseGenerator, 84
 - Width, 85
- Map.VertexColorGenerator, 85
- Map/Cell.cs, 89
- Map/Chunk.cs, 89
- Map/Map.cs, 89
- Map/NoiseGenerator.cs, 89
- Map/SubNoiseGenerator.cs, 90
- Map/VertexColorGenerator.cs, 90
- Map/VertexPostionGenerator.cs, 90
- Max
 - Map.NoiseGenerator, 62
- MAXIMUM_SAMPLES

- SpaceRts.Util.FrameCounter, 40
- maxMountainRadiusList
 - Map.NoiseGenerator, 62
- Medium
 - SpaceRts.Planet, 69
- Members
 - SpaceRts.Util.LobbyData, 48
- Message
 - SpaceRts.Util.ChatEntry, 29
- Min
 - Map.NoiseGenerator, 63
- Mine
 - SpaceRts.Channels.Channel, 27
 - SpaceRts.Structures.Mine, 52
 - SpaceRts.Structures.Structure, 81
- minMountainRadiusList
 - Map.NoiseGenerator, 63
- minMuntainDistanceList
 - Map.NoiseGenerator, 63
- Model
 - SpaceRts.Structures.Structure, 82
- money
 - SpaceRts.Player, 74
- Mountains
 - Map.Mountains, 54
 - Map.NoiseGenerator, 59
- mouseMovingCamera
 - SpaceRts.Camera, 18
- mouseStartCameraMovnmentPosition
 - SpaceRts.Camera, 18
- MouseState
 - SpaceRts.Global, 45
- Neighbours
 - SpaceRts.Axial, 15
 - SpaceRts.Cube, 35
- Noise
 - SpaceRts.FogOfWar, 38
 - SpaceRts.Noise.Noise2d, 56
- Noise/Noise2d.cs, 90
- Noise/PoissonSample.cs, 91
- Noise2d
 - SpaceRts.Noise.Noise2d, 55
- NoiseGenerator
 - Map.NoiseGenerator, 59
- noiseGenerator
 - SpaceRts.Map.Cell, 24
 - SpaceRts.Planet, 73
- noiseGenerators
 - Map.NoiseGenerator, 63
- noiseIrregularityMap
 - Map.NoiseGenerator, 64
- noiseMap
 - Map.NoiseGenerator, 64
 - Map.SubNoiseGenerator, 84
- Normal
 - SpaceRts.Util, 11, 12
- NUMBER_OF_CHANNELS
 - SpaceRts.Channels.Channel, 28

- NumberOfPlantes
 - SpaceRts.Util, 11
 - SpaceRts.Util.GameOptions, 44
- NumberOfPlayers
 - SpaceRts.Space, 79
- NumberOfSolarSystems
 - SpaceRts.Util, 12
 - SpaceRts.Util.GameOptions, 44
- Oasis
 - Map.NoiseGenerator, 59
- obj/Debug/netstandard2.0/SpaceRts.AssemblyInfo.cs, 91
- ObjectToByteArray
 - SpaceRts.Util.ObjectSerialization, 65
- Ocean
 - Map.NoiseGenerator, 59
- OddQ
 - SpaceRts.OddQ, 66
- operator*
 - SpaceRts.Axial, 14
 - SpaceRts.Cube, 35
- operator+
 - SpaceRts.Axial, 14
 - SpaceRts.Cube, 35
- operator-
 - SpaceRts.Axial, 15
 - SpaceRts.Cube, 35
- Ore
 - SpaceRts.Structures.Ore, 67
 - SpaceRts.Structures.Structure, 81
- OreNames
 - SpaceRts.Structures.Ore, 68
- Ores
 - SpaceRts.Models, 53
- OreType
 - SpaceRts.Structures.Ore, 68
- OreTypes
 - SpaceRts.Structures.Ore, 67
- outerRadius
 - SpaceRts.Map.Cell, 24
- Owner
 - SpaceRts.Util.LobbyData, 48
- pay
 - SpaceRts.Player, 74
- PlaceStructure
 - SpaceRts.Channels.Channel, 26
- Plains
 - Map.NoiseGenerator, 59
- Planet
 - SpaceRts.Planet, 70
- Planet.cs, 91
- PlanetChunk.cs, 91
- Planets
 - SpaceRts.SolarSystem, 76
- PlanetSize
 - SpaceRts.Planet, 73
- PlanetSizeDimensions

- SpaceRts.Planet, 73
- PlanetSizes
 - SpaceRts.Planet, 69
- PlanetType
 - Map.NoiseGenerator, 64
 - SpaceRts.Planet, 73
- planetType
 - SpaceRts.Map.Chunk, 33
- PlanetTypes
 - SpaceRts.Planet, 69
- Player
 - SpaceRts.Structures.Structure, 83
- Player.cs, 91
- Position
 - SpaceRts.SolarSystem, 76
- position
 - SpaceRts.Camera, 18
- Prod
 - SpaceRts.Structures.Structure, 83
- Production
 - SpaceRts.Structures.Structure, 82
- ProjectionMatrix
 - SpaceRts.Camera, 19
- Q
 - SpaceRts.Axial, 15
 - SpaceRts.Noise.Noise2d, 56
- R
 - SpaceRts.Axial, 15
 - SpaceRts.OddQ, 66
- Raffinery
 - SpaceRts.Channels.Channel, 27
- Random
 - Map.SubNoiseGenerator, 84
 - SpaceRts.Noise.Noise2d, 57
 - SpaceRts.Space, 79
- RechargingStation
 - SpaceRts.Channels.Channel, 27
- Red
 - SpaceRts.Structures.Ore, 67
- RemoveStructure
 - SpaceRts.Channels.Channel, 26
- Reseed
 - SpaceRts.Noise.Noise2d, 56
- resource
 - SpaceRts.Player, 74
- Rock
 - Map.NoiseGenerator, 59
- Rocky
 - SpaceRts.Planet, 70
- RockyBeach
 - Map.NoiseGenerator, 59
- RockyMountains
 - Map.NoiseGenerator, 59
- Seed
 - Map.NoiseGenerator, 64
 - Map.SubNoiseGenerator, 85
- SelectedPlanet
 - SpaceRts.Global, 45
- SelectedSolarSystem
 - SpaceRts.Global, 45
- SelectedUpdate
 - SpaceRts.Planet, 71
- SendChat
 - SpaceRts.Channels.Channel, 27
- SetSubChannel
 - SpaceRts.Channels.Channel, 27
- Shallows
 - Map.NoiseGenerator, 59
- Slow
 - SpaceRts.Util, 11
- Small
 - SpaceRts.Planet, 69
- SmallRocks
 - Map.NoiseGenerator, 59
- Smeltery
 - SpaceRts.Channels.Channel, 27
- SolarSystem
 - SpaceRts.SolarSystem, 75
- SolarSystem.cs, 91
- SolarSystems
 - SpaceRts.Space, 79
- Space
 - SpaceRts.Space, 77
- Space.cs, 92
- SpaceGenerationSeed
 - SpaceRts.Channels.Channel, 26
- SpaceRts, 9
- SpaceRts.Asteroid, 13
 - Asteroid, 13
- SpaceRts.Axial, 13
 - Axial, 14
 - Neighbours, 15
 - operator*, 14
 - operator+, 14
 - operator-, 15
 - Q, 15
 - R, 15
 - ToCube, 15
- SpaceRts.Camera, 17
 - Camera, 17
 - Frustum, 18
 - graphicsDevice, 18
 - lookAtVector, 18
 - mouseMovingCamera, 18
 - mouseStartCameraMovementPosition, 18
 - position, 18
 - ProjectionMatrix, 19
 - SPEED, 19
 - timeSinceLastClick, 19
 - Update, 18
 - upVector, 19
 - ViewMatrix, 19
- SpaceRts.Channels, 10
- SpaceRts.Channels.Channel, 25

- AssignUnit, [26](#)
- Auth, [26](#)
- AuthChannel, [26](#)
- Baracks, [27](#)
- Base, [27](#)
- CHANNEL_SIZE, [28](#)
- Channels, [26](#)
- Chat, [27](#)
- ConfirmBuild, [26](#)
- ConfirmResourceCount, [26](#)
- Conveyor, [27](#)
- Create, [27](#)
- Farm, [27](#)
- Frack, [27](#)
- Game, [26](#)
- GameChannel, [26](#)
- Housing, [27](#)
- Id, [26](#)
- Invite, [27](#)
- Join, [27](#)
- Kick, [27](#)
- Lab, [27](#)
- LaunchPad, [27](#)
- Lobby, [26](#)
- LobbyChannel, [27](#)
- Mine, [27](#)
- NUMBER_OF_CHANNELS, [28](#)
- PlaceStructure, [26](#)
- Raffinery, [27](#)
- RechargingStation, [27](#)
- RemoveStructure, [26](#)
- SendChat, [27](#)
- SetSubChannel, [27](#)
- Smeltery, [27](#)
- SpaceGenerationSeed, [26](#)
- StructureList, [27](#)
- TOTAL_CHANNELS, [28](#)
- Turret, [27](#)
- Users, [27](#)
- UUID, [26](#)
- SpaceRts.Cube, [34](#)
 - Cube, [34](#)
 - Neighbours, [35](#)
 - operator*, [35](#)
 - operator+, [35](#)
 - operator-, [35](#)
 - ToAxial, [35](#)
 - ToOddQ, [35](#)
 - X, [36](#)
 - Y, [36](#)
 - Z, [36](#)
- SpaceRts.FogOfWar, [36](#)
 - Draw, [37](#)
 - effect, [37](#)
 - FogOfWar, [37](#)
 - Height, [38](#)
 - LoadContent, [37](#)
 - Noise, [38](#)
 - TILE_DEPTH, [38](#)
 - TILE_WIDTH, [38](#)
 - Vertecies, [38](#)
 - Width, [38](#)
 - x, [38](#)
- SpaceRts.Global, [44](#)
 - Camera, [44](#)
 - ClickRay, [44](#)
 - KeyboardState, [45](#)
 - MouseState, [45](#)
 - SelectedPlanet, [45](#)
 - SelectedSolarSystem, [45](#)
- SpaceRts.Map, [10](#)
- SpaceRts.Map.Cell, [19](#)
 - adjacentsEven, [21](#)
 - adjacentsOdd, [22](#)
 - bounding, [22](#)
 - calculatedCorners, [22](#)
 - Cell, [20](#)
 - colorAtHeight, [21](#)
 - corners, [22](#)
 - drawCenter, [22](#)
 - DrawOnTop, [21](#)
 - GenerateMesh, [21](#)
 - HEIGHT_CHANGE_INSET_SCALE, [23](#)
 - HEIGHT_CHANGE_NUMBER_OF_TERRACES, [23](#)
 - HEIGHT_CHANGE_SLOPE_INSET, [23](#)
 - HEIGHT_CHANGE_TERRACE_SCALE, [23](#)
 - HEIGHT_SCALE, [23](#)
 - innerRadius, [23](#)
 - Intersects, [21](#)
 - List< Color >, [23](#)
 - List< Vector2 >, [24](#)
 - List< Vector3 >, [24](#)
 - noiseGenerator, [24](#)
 - outerRadius, [24](#)
 - uvCorners, [24](#)
 - uvInnerRadius, [25](#)
 - uvOuterRadius, [25](#)
- SpaceRts.Map.Chunk, [29](#)
 - Biomes, [31](#)
 - BoundingBox, [31](#)
 - Cells, [31](#)
 - Chunk, [30](#)
 - ChunkX, [31](#)
 - ChunkY, [32](#)
 - CornerColors, [32](#)
 - Draw, [30](#)
 - effect, [32](#)
 - Height, [32](#)
 - HEIGHT_SIZE_FALLOFF, [32](#)
 - Indicies, [32](#)
 - Intersect, [30](#)
 - Intersects, [31](#)
 - IREGULARITY_VECTOR, [32](#)
 - LoadContent, [31](#)
 - planetType, [33](#)

- TerrainRasterizerState, 33
- testEffect, 33
- texture, 33
- Update, 31
- Vertices, 33
- Width, 33
- SpaceRts.Map.Map, 49
 - CellAtPosition, 50
 - Chunk, 50
 - ChunkHeight, 51
 - Chunks, 51
 - ChunkWidth, 51
 - Draw, 50
 - Height, 51
 - Intersect, 50
 - Map, 49
 - Update, 50
 - Width, 51
- SpaceRts.Map.VertexPositionGenerator, 85
- SpaceRts.Models, 53
 - Base, 53
 - Load, 53
 - Ores, 53
- SpaceRts.Noise, 10
- SpaceRts.Noise.Noise2d, 55
 - _gradients, 56
 - _permutation, 57
 - CalculateGradients, 55
 - CalculatePermutation, 55
 - Drop, 56
 - GenerateNoiseMap, 56
 - Noise, 56
 - Noise2d, 55
 - Q, 56
 - Random, 57
 - Reseed, 56
- SpaceRts.Noise.PoissonSample, 74
 - GeneratePoints, 75
 - IsValid, 75
- SpaceRts.OddQ, 65
 - C, 66
 - OddQ, 66
 - R, 66
- SpaceRts.Planet, 68
 - CellsHeight, 71
 - CellsWidth, 71
 - CHUNK_HEIGHT, 71
 - CHUNK_WIDTH, 72
 - ChunksHeight, 72
 - ChunksWidth, 72
 - Cold, 70
 - Desert, 70
 - Draw, 70
 - effect, 72
 - FindGradientValueIndex, 70
 - Gas, 70
 - GetCellAtPosition, 70, 71
 - GradientColors, 72
 - GradientValues, 72
 - Id, 72
 - Large, 69
 - LoadContent, 71
 - Magma, 70
 - Map, 73
 - Medium, 69
 - noiseGenerator, 73
 - Planet, 70
 - PlanetSize, 73
 - PlanetSizeDimensions, 73
 - PlanetSizes, 69
 - PlanetType, 73
 - PlanetTypes, 69
 - Rocky, 70
 - SelectedUpdate, 71
 - Small, 69
 - Structures, 73
 - Terran, 70
 - Update, 71
- SpaceRts.Player, 74
 - money, 74
 - pay, 74
 - resource, 74
- SpaceRts.SolarSystem, 75
 - Connections, 76
 - Draw, 76
 - Planets, 76
 - Position, 76
 - SolarSystem, 75
 - Update, 76
- SpaceRts.Space, 77
 - ChunksDrawn, 78
 - Draw, 78
 - FogOfWar, 78
 - GameOptions, 79
 - GenerateSolarSystems, 78
 - NumberOfPlayers, 79
 - Random, 79
 - SolarSystems, 79
 - Space, 77
 - spriteFont, 79
 - temp, 79
 - Update, 78
- SpaceRts.SpaceUnit, 80
 - SpaceUnit, 80
- SpaceRts.Structures, 10
- SpaceRts.Structures.Base, 16
 - Base, 16
- SpaceRts.Structures.Mine, 52
 - Mine, 52
- SpaceRts.Structures.Ore, 67
 - Blue, 67
 - Green, 67
 - Ore, 67
 - OreNames, 68
 - OreType, 68
 - OreTypes, 67

- Red, [67](#)
- SpaceRts.Structures.Structure, [80](#)
 - Base, [81](#)
 - BoundingBox, [82](#)
 - Build, [81](#)
 - Cell, [82](#)
 - Cost, [82](#)
 - Draw, [82](#)
 - Mine, [81](#)
 - Model, [82](#)
 - Ore, [81](#)
 - Player, [83](#)
 - Prod, [83](#)
 - Production, [82](#)
 - Structure, [81](#)
 - StructureType, [83](#)
 - StructureTypes, [81](#)
 - Update, [82](#)
- SpaceRts.Unit, [11](#)
- SpaceRts.Unit.BasicUnit, [16](#)
 - BasicUnit, [16](#)
- SpaceRts.Unit.Unit, [85](#)
 - Unit, [85](#)
- SpaceRts.Util, [11](#)
 - Fast, [11](#)
 - GameSpeed, [11](#)
 - High, [12](#)
 - Low, [12](#)
 - Normal, [11](#), [12](#)
 - NumberOfPlantes, [11](#)
 - NumberOfSolarSystems, [12](#)
 - Slow, [11](#)
- SpaceRts.Util.ChatEntry, [28](#)
 - ChatEntry, [28](#)
 - Message, [29](#)
 - UserName, [29](#)
- SpaceRts.Util.FrameCounter, [39](#)
 - _sampleBuffer, [40](#)
 - AverageFramesPerSecond, [40](#)
 - CurrentFramesPerSecond, [40](#)
 - FrameCounter, [39](#)
 - MAXIMUM_SAMPLES, [40](#)
 - TotalFrames, [40](#)
 - TotalSeconds, [40](#)
 - Update, [39](#)
- SpaceRts.Util.GameOptions, [43](#)
 - GameOptions, [43](#)
 - GameSpeed, [44](#)
 - NumberOfPlantes, [44](#)
 - NumberOfSolarSystems, [44](#)
- SpaceRts.Util.HexagonalBounding, [45](#)
 - BoundingBoxes, [46](#)
 - HexagonalBounding, [46](#)
 - Intersects, [46](#)
- SpaceRts.Util.LobbyData, [47](#)
 - Chat, [48](#)
 - ID, [48](#)
 - LobbyData, [48](#)
 - Members, [48](#)
 - Owner, [48](#)
- SpaceRts.Util.MathExtended, [51](#)
 - GradientIndex, [52](#)
- SpaceRts.Util.ObjectSerialization, [65](#)
 - ByteArrayToObject, [65](#)
 - ObjectToByteArray, [65](#)
- SpaceUnit
 - SpaceRts.SpaceUnit, [80](#)
- SpaceUnit.cs, [92](#)
- SPEED
 - SpaceRts.Camera, [19](#)
- spriteBatch
 - BlackApp.Game1, [43](#)
- spriteFont
 - SpaceRts.Space, [79](#)
- Structure
 - SpaceRts.Structures.Structure, [81](#)
- StructureList
 - SpaceRts.Channels.Channel, [27](#)
- Structures
 - SpaceRts.Planet, [73](#)
- Structures/Base.cs, [92](#)
- Structures/Mine.cs, [92](#)
- Structures/Ore.cs, [93](#)
- Structures/Structure.cs, [93](#)
- StructureType
 - SpaceRts.Structures.Structure, [83](#)
- StructureTypes
 - SpaceRts.Structures.Structure, [81](#)
- SubNoiseGenerator
 - Map.SubNoiseGenerator, [84](#)
- SubNoiseGenerators
 - Map.NoiseGenerator, [64](#)
- temp
 - SpaceRts.Space, [79](#)
- TerrainRasterizerState
 - SpaceRts.Map.Chunk, [33](#)
- Terran
 - SpaceRts.Planet, [70](#)
- testEffect
 - SpaceRts.Map.Chunk, [33](#)
- texture
 - SpaceRts.Map.Chunk, [33](#)
- Textures
 - Map.NoiseGenerator, [64](#)
- TILE_DEPTH
 - SpaceRts.FogOfWar, [38](#)
- TILE_WIDTH
 - SpaceRts.FogOfWar, [38](#)
- timeSinceLastClick
 - SpaceRts.Camera, [19](#)
- ToAxial
 - SpaceRts.Cube, [35](#)
- ToCube
 - SpaceRts.Axial, [15](#)
- ToOddQ
 - SpaceRts.Cube, [35](#)

- TOTAL_CHANNELS
 - SpaceRts.Channels.Channel, [28](#)
- TotalFrames
 - SpaceRts.Util.FrameCounter, [40](#)
- TotalSeconds
 - SpaceRts.Util.FrameCounter, [40](#)
- TryGenerateAtIndex
 - Map.NoiseGenerator, [60](#)
- Turret
 - SpaceRts.Channels.Channel, [27](#)
- Unit
 - SpaceRts.Unit.Unit, [85](#)
- Unit.cs, [93](#)
- Units/BasicUnit.cs, [93](#)
- Update
 - BlackApp.Game1, [42](#)
 - SpaceRts.Camera, [18](#)
 - SpaceRts.Map.Chunk, [31](#)
 - SpaceRts.Map.Map, [50](#)
 - SpaceRts.Planet, [71](#)
 - SpaceRts.SolarSystem, [76](#)
 - SpaceRts.Space, [78](#)
 - SpaceRts.Structures.Structure, [82](#)
 - SpaceRts.Util.FrameCounter, [39](#)
- upVector
 - SpaceRts.Camera, [19](#)
- UserName
 - SpaceRts.Util.ChatEntry, [29](#)
- Users
 - SpaceRts.Channels.Channel, [27](#)
- Util/FrameCounter.cs, [94](#)
- Util/GameOptions.cs, [94](#)
- Util/HexagonalBounding.cs, [94](#)
- Util/Lobby.cs, [95](#)
- Util/MathExtended.cs, [95](#)
- Util/ObjectSerialization.cs, [95](#)
- UUID
 - SpaceRts.Channels.Channel, [26](#)
- uvCorners
 - SpaceRts.Map.Cell, [24](#)
- uvInnerRadius
 - SpaceRts.Map.Cell, [25](#)
- uvOuterRadius
 - SpaceRts.Map.Cell, [25](#)
- Vertecies
 - SpaceRts.FogOfWar, [38](#)
- Vertices
 - SpaceRts.Map.Chunk, [33](#)
- ViewMatrix
 - SpaceRts.Camera, [19](#)
- VolcanicMountains
 - Map.NoiseGenerator, [59](#)
- WaterLake
 - Map.NoiseGenerator, [59](#)
- Width
 - Map.NoiseGenerator, [64](#)
- Map.SubNoiseGenerator, [85](#)
- SpaceRts.FogOfWar, [38](#)
- SpaceRts.Map.Chunk, [33](#)
- SpaceRts.Map.Map, [51](#)
- X
 - SpaceRts.Cube, [36](#)
- x
 - SpaceRts.FogOfWar, [38](#)
- Y
 - SpaceRts.Cube, [36](#)
- Z
 - SpaceRts.Cube, [36](#)