# Chicken Siege Class Diagram

## Tile
+placingTurret : bool
+occupied : bool
+cannon : bool
+shield : bool
+bubble : bool
+musket : bool
+copyScript : Tower
+TowerType : enum
+towerPrices : float[]

+sellTower()
+GiveCamoStat()
+GiveMetalPierceStat()
+SwapTowerTargeting()
+SwapTowerTargeting()
+PlaceTower(int)
-TowerStatsController()
-UpdateSellPrice()

## Tower
+trackingRadius : float
+targetEnemy : transform
+rateOfFire : float
-fireCountdown : float
+projectileScript : Projectile
+chickenAIScript : ChickenAI
+canDetectCamo : bool
+canPierceMetal : bool
+isTargetingStrongest : bool
+isTargetingFurthest : bool
+TowerType : enum

-Shoot()
-FireAudioController()
+FindFurthestEnemy()
+FindHealthiestEnemy()
+TrackAndFire()
+UpgradeTowerToDetectCamo()
+UpgradeProjectileToPierceMetal()
-CheckTargeting()

## Projectile
+target : transform
+directionCaptured : bool
+pierce : bool
+isBubble : bool
+canPierceMetal : bool
+projectileLifetime : float
-moveDirection : vector3
+speed : float
+damage : float
+theTarget : ChickenAI

+Seek(transform)
-HitTarget(collider)
+UpgradeProjectileToPierceMetal()
+CheckChickenStatusForBubble()

## ChickenAI
+health : float
+speed : float
+weight : float
+chickenValue : float
+projectileScript : Projectile
+isReducingSpeed : bool
+isCamoChicken : bool
+isMetalChicken : bool
+isBossChicken : bool
+distanceMoved : float
-maxMultiplier : float
-minMultiplier : float
-moneyMultiplier : float
-waveManagerScript : WaveManager

+MoveTowardsTarget()
+ReduceHealth(float)
+CalculateMoneyMultiplier()
-ReduceSpeedForDuration()
+CheckMetalStatusForDamage()
-TrackDistanceMoved()

## PathAI
+turns : Transform[]
+children : int

-StartTurnLogic()

## GameOverUI
-playerStats : PlayerStats
+playUI : GameObject
+gameOverUI : GameObject
+pauseUI : GameObject
+towerStatsUI : GameObject

+ShowGO()
+HideGO()

## PlayerStats
+goldenChicken : GameObject
+silverChicken : GameObject
+bronzeChicken : GameObject
+chickenPlatform : GameObject

-CheckForCheats()

## HealthUI
+healthText : TMP_Text
-playerStats : PlayerStats

-SetHealthUI(Collider other)

## HealthUI
+goldText : TMP_Text
-playerStats : PlayerStats

-SetGoldUI()

## WaveManager
+Enemy : struct
+enemyPrefab : GameObject
+enemyCount : int
+Wave : struct
+spawnInterval : float
+spawnPoint : Transform
+currentWaveIndex : int
+waveInProgress : bool
+enemiesRemaining : bool
+gameWon : bool

+CheckIfWon()
+StartWave()
-DelayedSpawn(float, wave)
+SpawnWave(Wave)
+StartNextWave()
+CheckForRemainingEnemies()

## GameWinUI
-winCanvas : GameObject
-playUI : GameObject
-gameOverUI : GameObject
-pauseUI : GameObject
-towerStatsUI : GameObject
-waveManager : WaveManger

ShowWinScreenWithDelay()

## ScoringSystem
-playerStatsScript : PlayerStats
+totalPlayerHealth : float
+score : float
+scoreFileName : string
-waveManagerScript : WaveManager

-ScoreUpdater()
-CheckIfGameWon()
-CheckIfCheating()
-WriteScoreToFile()

## ChickenTrophies
+goldenChicken : GameObject
+silverChicken : GameObject
+bronzeChicken : GameObject
+chickenPlatform : GameObject

TallyStars()
DisplayTrophies()

## ScoreFileReader
+star1 : Image
+star2 : Image
+star3 : Image
+scoreFileName : string

UpdateStars()