# Architecture

## TapManager

### Description

Manager class to register screen tap and invoke events depending on tap phase.

Inherits MonoBehaviour, must be a component on scene.

### Variables and fields

-sizePerFrame: float

+OnTapReleased: event Action (static)

+OnTap: event Action (static)

+OnTapHold: event Action<float>

### Functions

-Update(): void

-OnDisable(): void

## ObstacleGenerator

### Description

Manager class to spawn infectable objects on scene.

Inherits MonoBehaviour, must be a component on scene.

### Variables and fields

-fieldWidth: int

-fieldLength: int

-offset: Vector3

-obstacleDencity: int

-availableObstacles: GameObject[]

-generatedObstacles: GameObject[,]

### Functions

-Start(): void

-GenerateNoise(): void

-SetMap(): void

## GamePhaseManager

### Description

Manager class to rule game phases and UI element.

Inherits MonoBehaviour, must be a component on scene.

### Variables and fields

-buttonNext: GameObject

-buttonRestart: GameObject

-finalText: Text

-tapManager: GameObject

### Functions

+EndGame(EGamePhase gamePhase): void

+ReloadScene(): void

## Player

### Description

Class describing player. Contains its size and possibilities

Inherits MonoBehaviour.

### Variables and fields

-minimumSize: float

-projectileSpawnPosition: Transform

-projectileSpeed: float

-size: float

-currentProjectile: GameObject

-gamePhaseManager: GamePhaseManager

### Functions

-Awake(): void

-Start(): void

-CreateProjectile(): void

-ReleaseProjectile(): void

-Decrease(float size): void

-CheckPath(): void

## Projectile

### Description

Class describing every projectile. Contains information about its size, formulas to calculate infection radius, list of infectable objects.

Inherits MonoBehaviour.

### Variables and fields

-size: float;

-speed: float

-obstacles: List<'IInfectable'>

-calculateAreaFormula: ICalculateArea

-findRadius: float

-player: Player

### Functions

-Awake(): void

-Start(): void

-SetComponents(ICalculateArea calculator, float speed): void

-Increase(float size): void

-SetVelocity(): void

-OnCollisionEnter(): void

-FindInfectableObjects(): void

-InfectAll(): void

-OnDrawGizmos(): void

## Obstacle

### Description

Class describing every obstacle. Contains information about its infected color, and exposion particles.

Must be on prefab GO.

Inherits MonoBehaviour, IInfectable.

### Variables and fields

-infectedColor: Color

-explosionParticles: ParticleSystem

### Functions

+Infect(): void

## LinearCalculator

### Description

Calculator class describing linear formula for projectile infection.

Inherits MonoBehaviour, ICalculateArea.

### Variables and fields

### Functions

+CalculateArea(float size): float

## SquareCalculator

### Description

Calculator class describing square formula for projectile infection.

Inherits MonoBehaviour, ICalculateArea.

### Variables and fields

### Functions

+CalculateArea(float size): float

## IInfectable

### Description

Interface describing every infectable object.

### Functions

+Infect(): void

## ICalculateArea

### Description

Interface describing possible calculators for projectile infection.

### Functions

+CalculateArea(float size): float

## EGamePhase

### Description

Manager enum describing game phases..

### Variables and fields

Win

Loose