UML:

|  |
| --- |
| MainWindow |
| - ui: Ui::MainWindow\*  - scene: QGraphicsScene\*  - world: b2World\*  - itemList: QList<GameItem\*>  - timer: QTimer\*  - music: QMediaPlayer\*  - init\_x: float  - init\_y: float  - land: Land\*  - bird[ ]: Bird\*  - pig[ ]: Wood\*  - isPressed: bool  - isFired: bool  - skillUsed: bool  - done: bool  - alldone: bool  - birdnum: int  - dx: float  - dy: float  - score: int  - isReady: bool  - die0: bool  - die1: bool  - die2: bool  - die3: bool  - die4: bool  - v0: b2Vec2  - v1: b2Vec2  - v2: b2Vec2  - v3: b2Vec2  - v4: b2Vec2 |
| <<constructor>>+ MainWindow(parent: QWidget\*)  <<destructor>>+ ~MainWindow()  + showEvent(QShowEvent\*): void  + eventFilter(QObject\*, event: QEvent\*): bool  + closeEvent(QCloseEvent\*): void  <<signals>>+ quitGame(): void  <<slots>>- startGame(): void  <<slots>>- clear(): void  <<slots>>- setBird(): void  <<slots>>- setWood(): void  <<slots>>- setPig(): void  <<slots>>- tick(): void  <<slots>>- setReady(): void  <<slots>>- newBird(): void  <<slots>>- isAllDone(): void  <<slots>>- QUITSLOT(): void |

|  |
| --- |
| Gameitem |
| # g\_body: b2Body\*  # g\_pixmap: QGraphicsPixmapItem  #g\_size: QSizeF  #g\_world: b2World  #g\_worldsize: static QSizeF  #g\_windowsize: static QSizeF |
| <<constructor>>+ GameItem(world: b2World\*)  <<destructor>>+ ~GameItem()  + setGloabalSize(worldsize: QSizeF, windowsize: QSizeF): static void  <<slots>>+ paint(): void |

|  |
| --- |
| Land |
|  |
| <<constructor>>+ Land(x: float, y: float, w: float, h: float, pixmap: QPixmap\*, world: b2World, scene: QGraphicsScene\*) |

|  |
| --- |
| Wood |
|  |
| <<constructor>>+ Wood(x: float, y: float, w: float, h: float, timer: QTimer\*, pixmap: QPixmap\*, world: b2World, scene: QGraphicsScene\*) |

|  |
| --- |
| Bird |
|  |
| <<constructor>>+ Bird(x: float, y: float, radius: float, timer: QTimer\*, pixmap: QPixmap\*, world: b2World, scene: QGraphicsScene\*)  + setDynamic(): void  + setVelocity(x: float, y: float): void  + getVelocity(): b2Vec2  + setPos(x: float, y: float): void  + getPos(): b2Vec2  + rotate(rad: int): void |

|  |
| --- |
| Pig |
|  |
| <<constructor>>+ Pig(x: float, y: float, radius: float, timer: QTimer\*, pixmap: QPixmap\*, world: b2World, scene: QGraphicsScene\*)  + getVelocity(): b2Vec2  + changePic(pixmap: QPixmap): void |

關係圖：

QMainWindow

QGraphicsScene

QMouseEvent

QDesktopWidget

QList

MainWindow

QList

include

include

Box2D

QGraphicsPixmapItem

Land

Wood

Bird

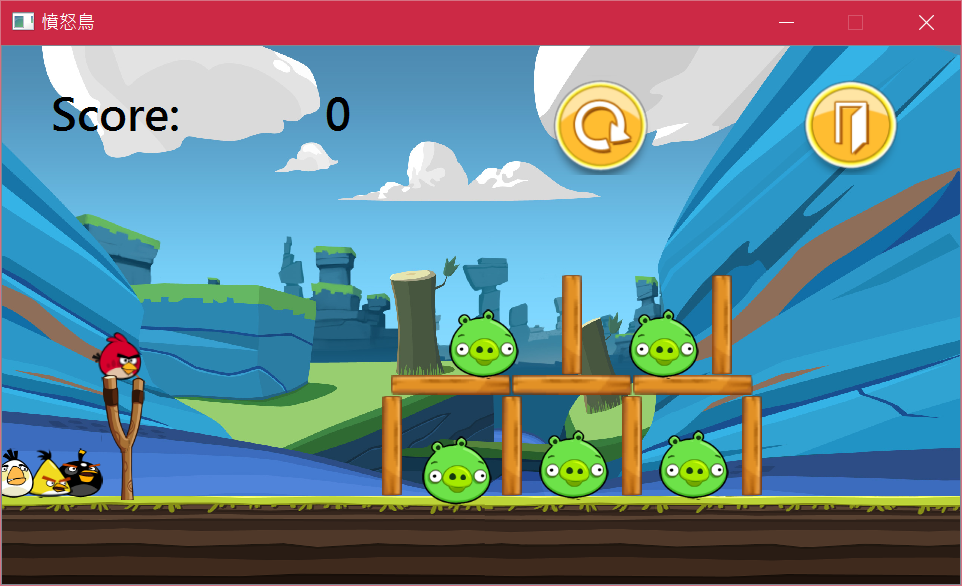
Pig

繼承

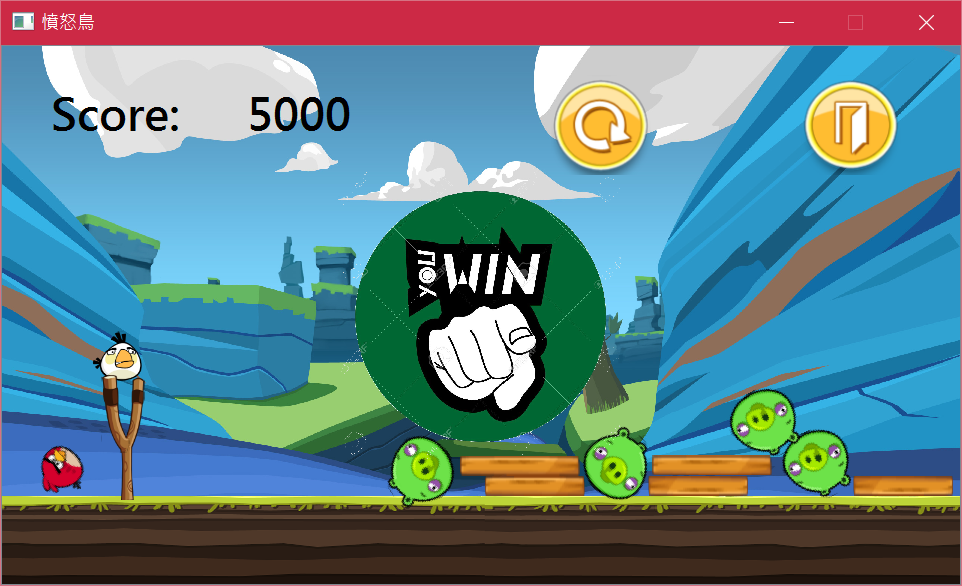
GameItem

遊戲截圖：

1.遊戲開始畫面



2.遊戲勝利(全部擊中)



3.遊戲失敗(沒有全部擊中)

