UML class diagram：

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| MainWindow |
| - view : QGraphicsView  - scene : QGraphicsScene  - back : QGraphicsPixmapItem  - shot : QGraphicsPixmapItem  - result : QGraphicsPixmapItem  - world : b2World  - itemList<GameItem> : QList  -timer : QTimer  - aa : double  - bb : double  - cc : double  - dd : double  - ee : double  - ff : double  - item\_x[13] : double  - item\_y[13] : double  - item\_r[13] : double  - po : b2Vec2  - bird\_mode : Integer  - superpower\_mode : Integer  - isMouseControl : bool  - isLineAppear : bool  - isButtonControl : bool  - isExist[17]: bool  - canDelete : bool  - isResultOpen : bool  - gen\_bird : QTimer  - get\_bird : QTimer  - ge\_bird : QTimer  - start : QTimer  - item : QTimer  - delete\_timer : QTimer  - finalCheck : QTimer  - btn\_exit : QPushButton  - score\_label : QLabel  - score : Integer  - score2 : Integer  - lab : QString  - lab2 : QString |
| <constructor>>+MainWindow(parent = 0 : QWidget)  + showEvent(QShowEvent \*)  + eventFilter (QObject\*,QEvent \*) : bool  + closeEvent(QCloseEvent\*)  + quitGame()  - tick()  - QUITSLOT()  - QUITSLOT(bool)  - generateBird()  - getItemPos()  - deleteItem()  - finally() |

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| GameItem |
| + g\_body : b2Body  + g\_pixmap : QGraphicsPixmapItem  + g\_size : QSizeF  + g\_world : b2World  + g\_worldsize : QSizeF  + g\_windowsize : QSizeF |
| - paint()  <constructor>>+GameItem(world : b2World)  + setGlobalSize(worldsize : QSizeF , windowsize : QSizeF) |

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| Bird |
| + x:float  + y:float  + radius:float  + timer:QTimer  + pixmap:QPixmap  + world : b2World  + scene : QGraphicsScene |
| <<constructor>>+Bird(x : float , y:float , radius:float , timer:QTimer , pixmap:QPixmap , world:b2World , scene:QGraphicsScene)  + setLinearVelocity(velocity : b2Vec2)  + superpower() |

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| magicbird |
| + tri\_up : QTimer  + safe : Interger |
| <<constructor>>+magicbird(x : float , y:float , radius:float , timer:QTimer , pixmap:QPixmap , world:b2World , scene:QGraphicsScene)  + superpower()  - magic() |

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| multibird |
| + disappear : QTimer  + speed : Bird  + up : Bird |
| <<constructor>>+multibird(x : float , y:float , radius:float , timer:QTimer , pixmap:QPixmap , world:b2World , scene:QGraphicsScene)  - dis()  + superpower() |

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| speedbird |
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| <<constructor>>+speedbird(x : float , y:float , radius:float , timer:QTimer , pixmap:QPixmap , world:b2World , scene:QGraphicsScene)  + superpower() |

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| master |
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| <<constructor>>+master(x : float , y:float , radius:float , timer:QTimer , pixmap:QPixmap , world:b2World , scene:QGraphicsScene) |

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

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

**補充:**

沒有Restart的按鈕。

玩的方式是：點遊戲畫面任何一點再拖曳之後放開，就會沿著滑鼠移動的方式的方向飛出，最後會判斷輸贏～

第一隻紅色的鳥沒有超能力，第二隻白色的鳥可以加速，第三隻藍色的鳥可以召喚分身，第四隻黑色的鳥可以三段加速(會比較不好控制~)

建議:第一隻鳥幾乎無作用，第二隻鳥可以打立著的棍子的邊邊(也幾乎無作用ㄎ)，第三隻鳥可以往中間射再讓他分散(效果顯著)，第四隻鳥就隨意~~