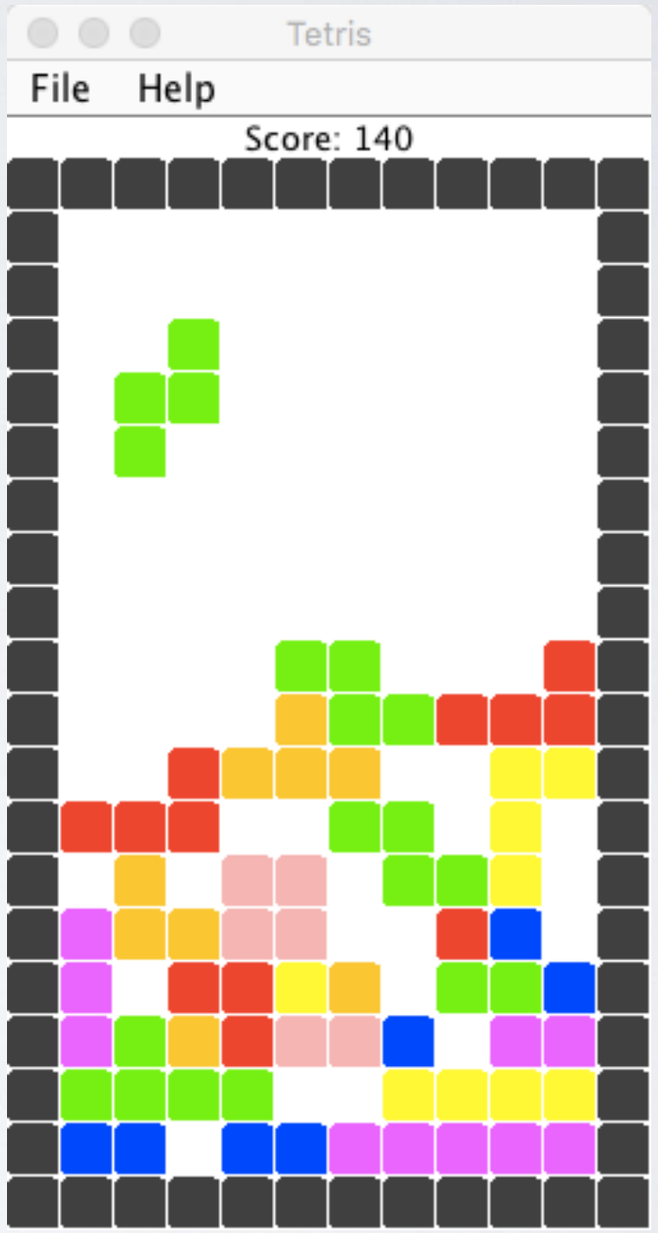
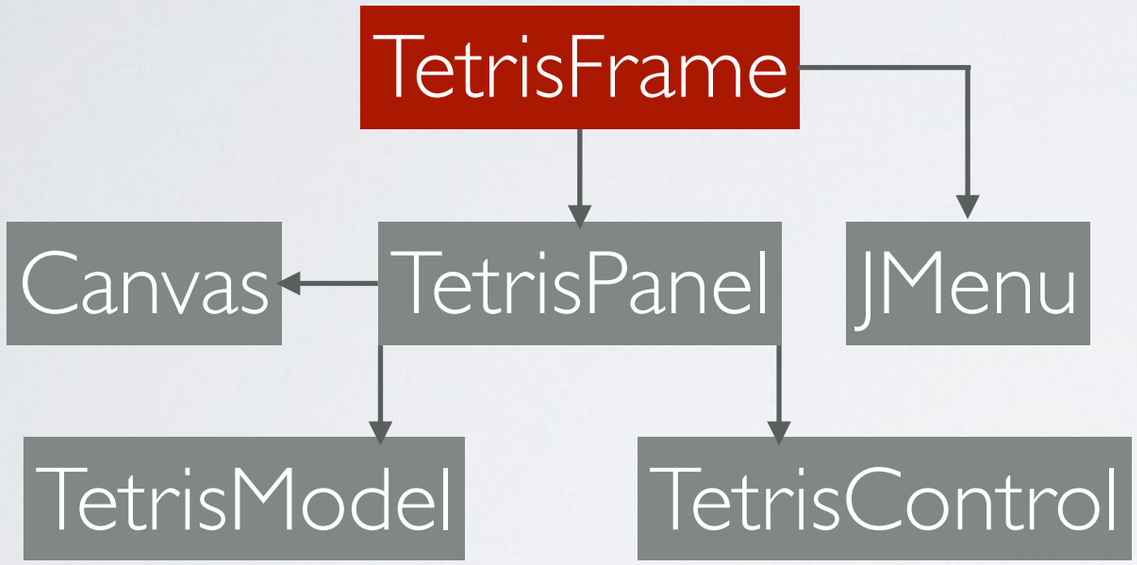
TETRIS

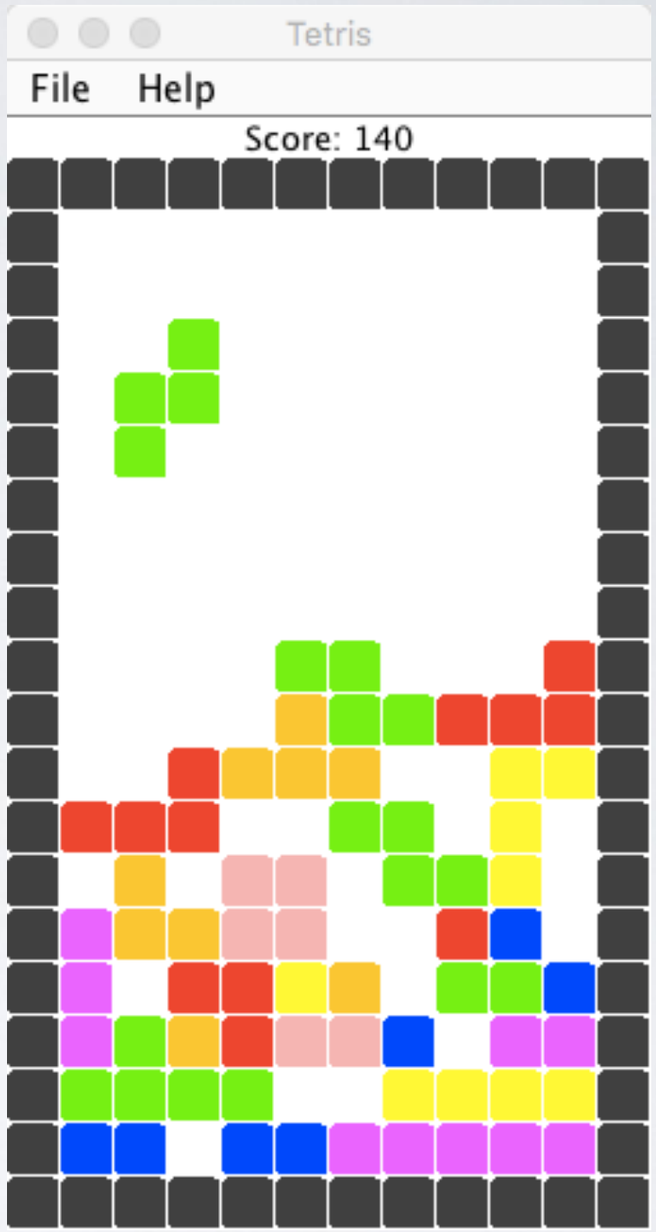
介紹

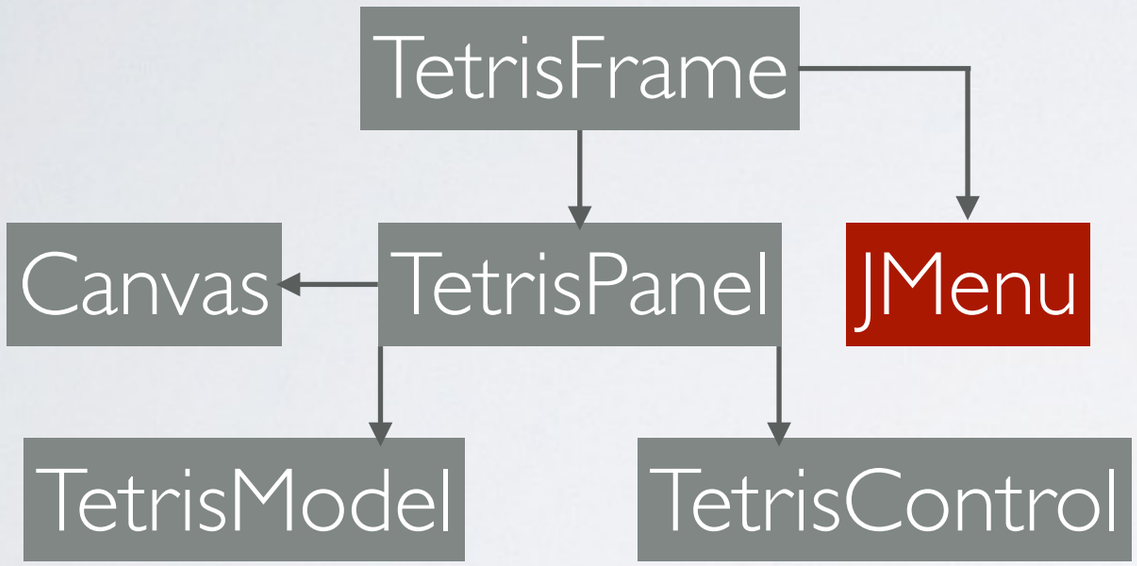
- 俄羅斯方塊遊戲
- 聯網排行榜獲取
- 登錄系統

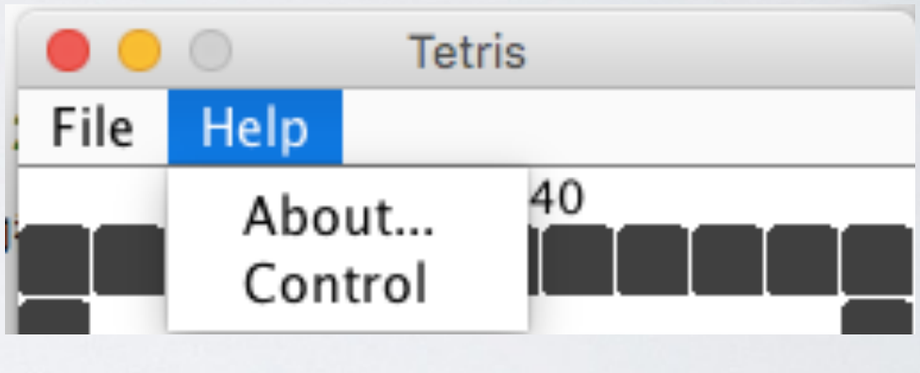


程式架構

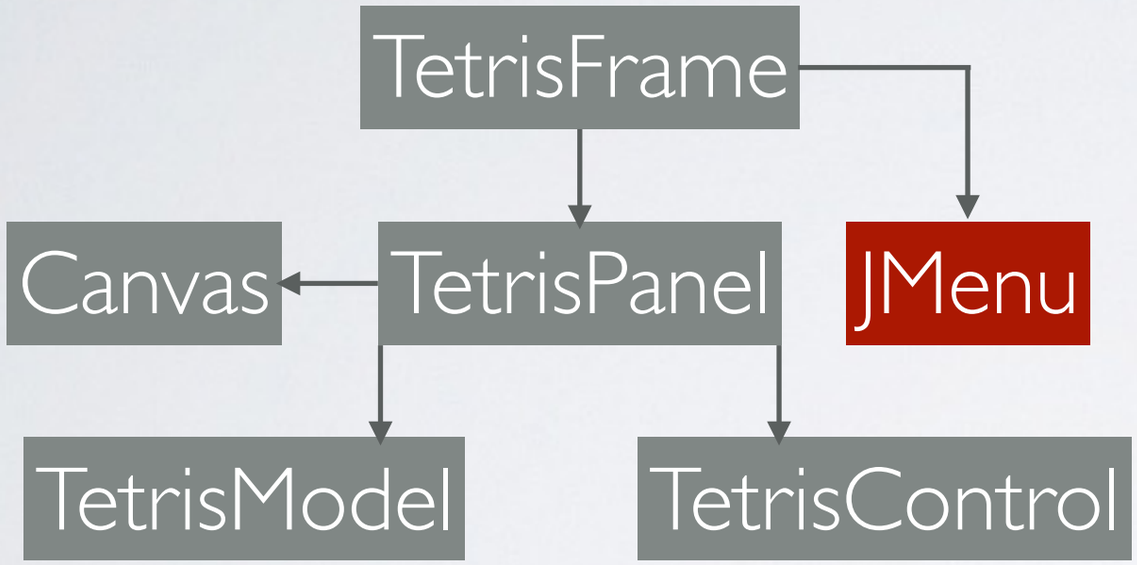

TetrisFrame
Canvas
TetrisPanel
JMenu
TetrisModel
TetrisControl


Tetris
File
Help
Score: 140

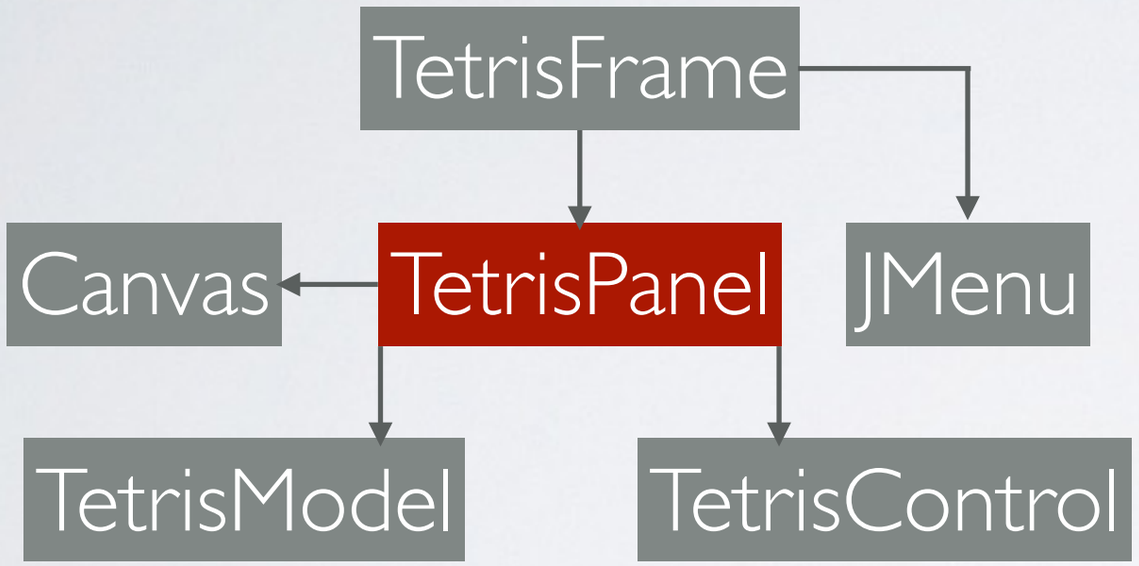

TetrisFrame
Canvas
TetrisPanel
JMenu
TetrisModel
TetrisControl

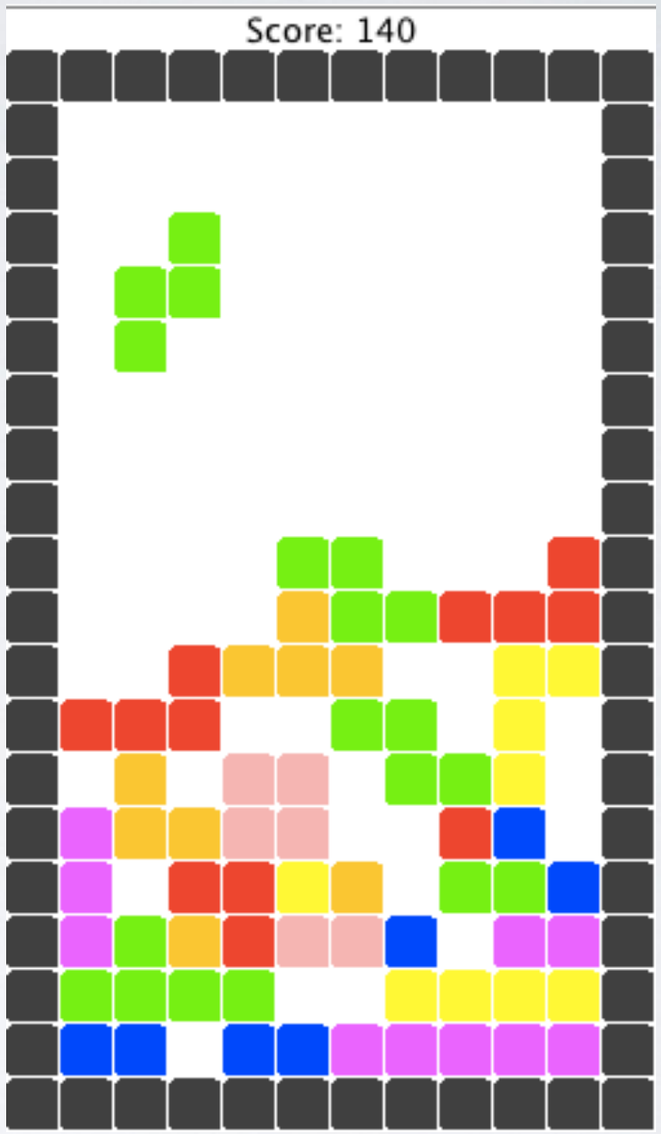

Tetris
File
Help
About...
Control
40

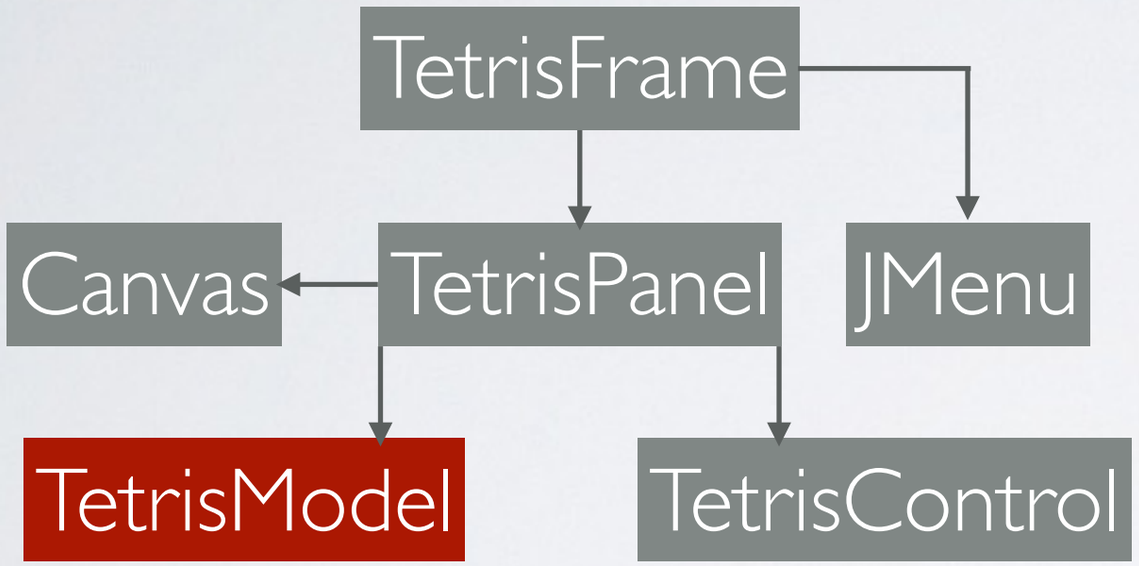
Tetris
File
Help
New Game
Exit
e: 140



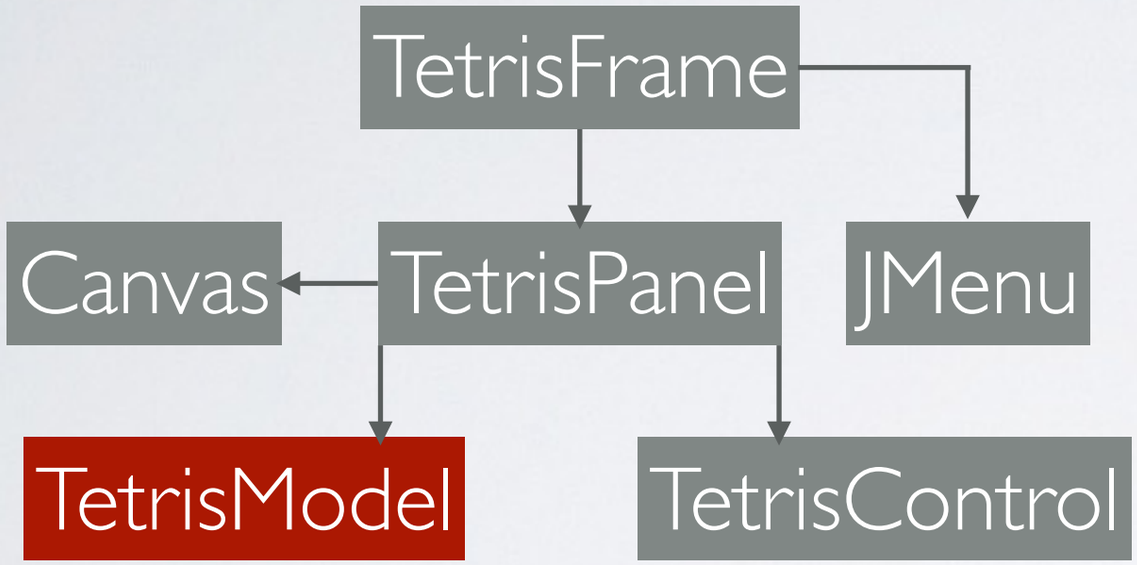

```
JMenu fileMenu = new JMenu( "File" );

JMenuItem startItem = new JMenuItem( "New Game" );

fileMenu.add( startItem );

startItem.addActionListener(
    new ActionListener()
    {
        public void actionPerformed( ActionEvent event )
        {
            tetrisPanel.gamestart();
        }
    }
);
```

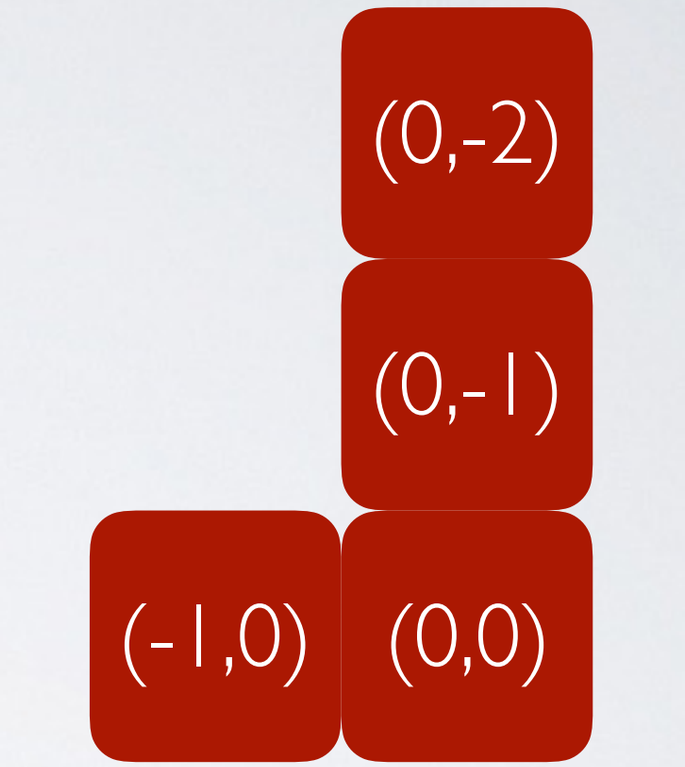

TetrisFrame
Canvas
TetrisPanel
JMenu
TetrisModel
TetrisControl


Score: 140

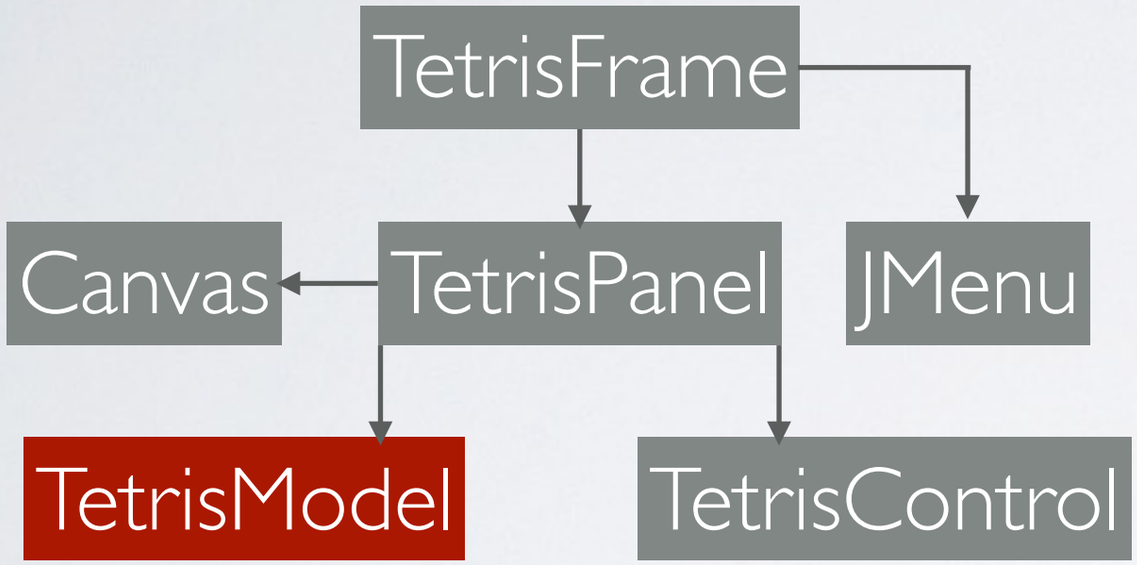


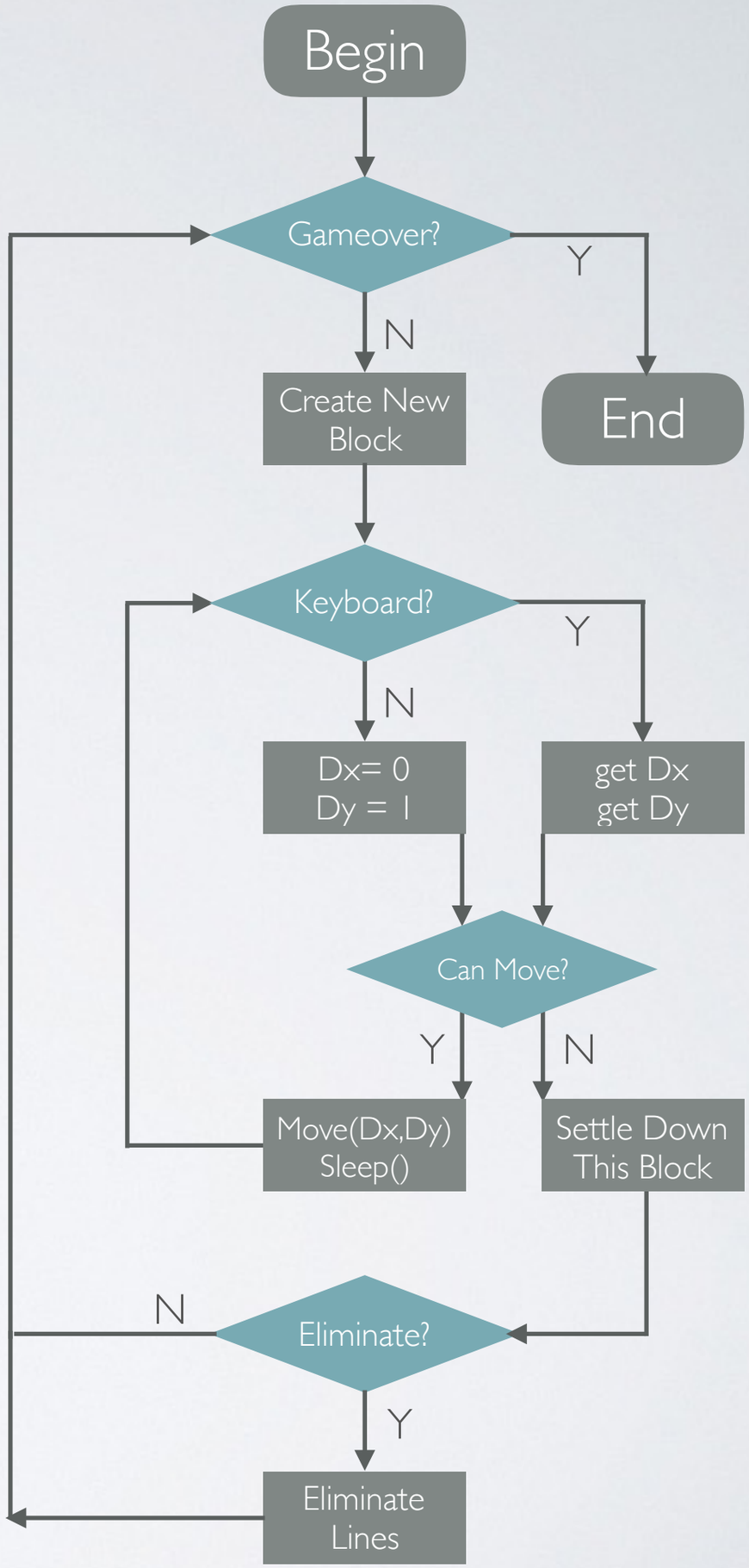

```
private static final int[][][] BLOCK=
{
     {},
     {{0,0,1},{0,0,2},{1,0,-1},{0,0,0}},
     {{0,0,0},{0,-1,0},{0,2,0},{0,1,0}},
     {{0,0,0},{0,1,0},{0,2,0},{0,0,1}},
     {{0,-1,0},{0,0,0},{0,0,1},{0,0,2}},
     {{0,0,0},{0,-1,0},{0,-2,0},{1,0,-1}},
     {{1,0,-1},{2,0,-2},{0,0,0},{0,1,0}},
     {{0,-1,0},{0,-2,0},{0,0,0},{0,0,1}},
     {{1,0,-1},{2,0,-2},{0,0,0},{0,-1,0}},
     {{0,1,0},{0,2,0},{0,0,0},{1,0,-1}},
     {{0,1,0},{0,0,0},{0,0,1},{0,0,2}},
     {{0,-1,0},{0,0,0},{0,1,0},{0,0,1}},
     {{0,-1,0},{0,0,0},{0,0,1},{1,0,-1}},
     {{1,0,-1},{0,1,0},{0,-1,0},{0,0,0}},
     {{0,1,0},{0,0,0},{0,0,1},{1,0,-1}},
     {{0,1,0},{0,0,1},{0,1,1},{0,0,0}},
     {{1,-1,0},{0,0,0},{0,0,1},{0,1,1}},
     {{0,-1,0},{1,0,-1},{0,-1,1},{0,0,0}},
     {{0,1,0},{0,0,1},{0,-1,1},{0,0,0}},
     {{0,1,0},{0,0,0},{1,0,-1},{0,1,1}}
};
```

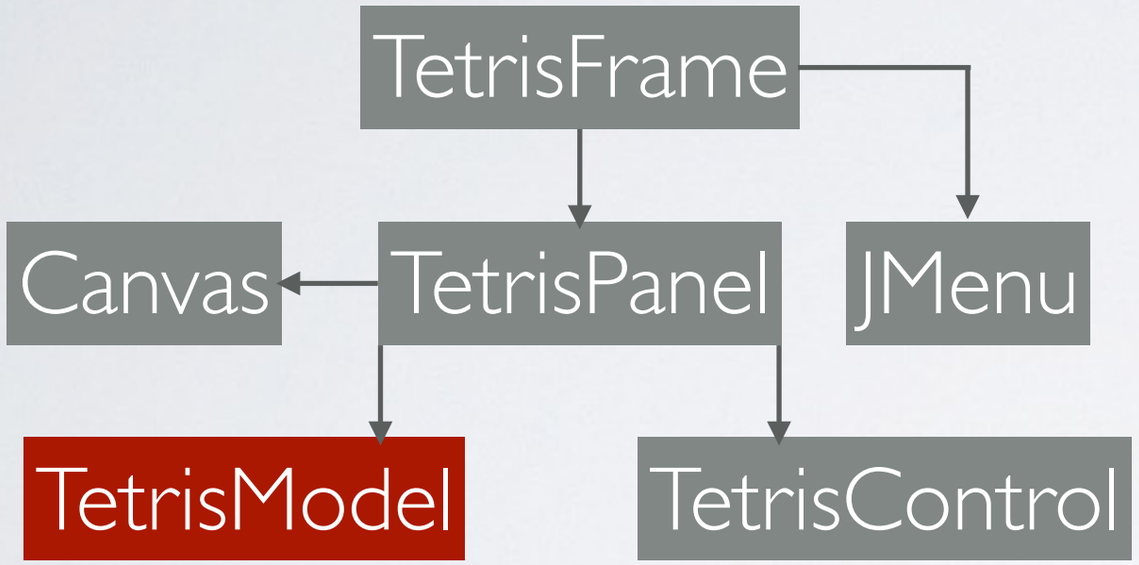




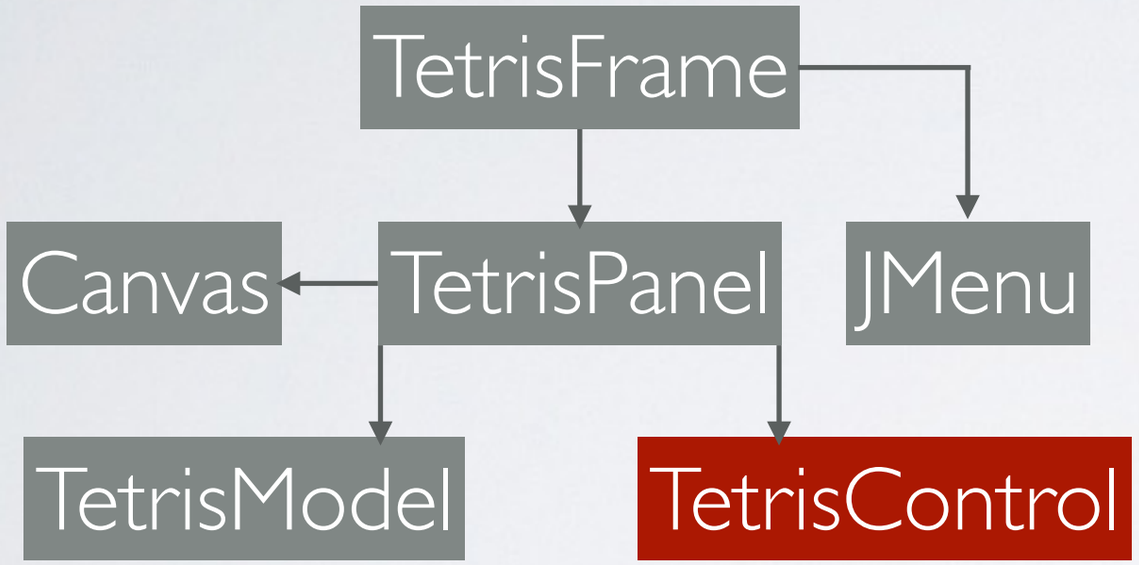
(0,0):Anchor Point


TetrisFrame
Canvas
TetrisPanel
JMenu
TetrisModel
TetrisControl

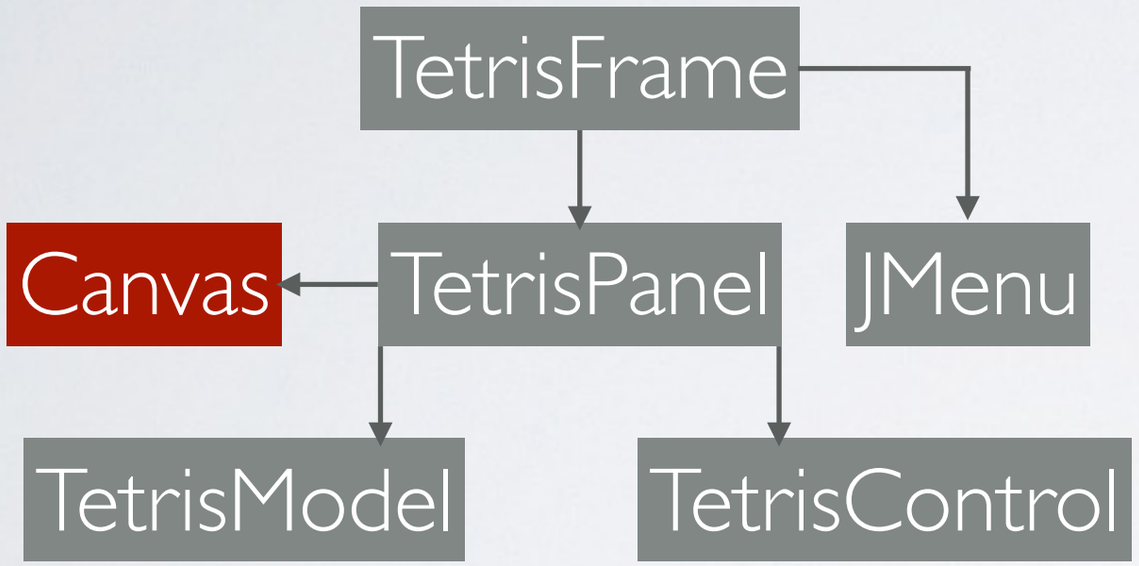

Begin
Gameover?
Y
N
End
Create New Block
Keyboard?
Y
N
Dx= 0
Dy = 1
get Dx
get Dy
Can Move?
Y
N
Move(Dx,Dy)
Sleep()
Settle Down This Block
N
Eliminate?
Y
Eliminate Lines



- x : int
- y : int
- kind : int
- checked : boolean
- paused : boolean
- gameover : boolean
- score : int
- timeInterval : int
- speedChangeRate : double




```
public void keyPressed(KeyEvent e)
{
    int keyCode = e.getKeyCode();
    switch (keyCode)
    {
        case KeyEvent.VK_UP:
            model.rotate();
            break;
        case KeyEvent.VK_DOWN:
            model.move(0, 1);
            break;
        case KeyEvent.VK_LEFT:
            model.move(-1, 0);
            break;
        case KeyEvent.VK_RIGHT:
            model.move(1, 0);
            break;
        case KeyEvent.VK_ADD:
        case KeyEvent.VK_PAGE_UP:
            model.speedUp();
            break;
        case KeyEvent.VK_SUBTRACT:
        case KeyEvent.VK_PAGE_DOWN:
            model.speedDown();
            break;
        case KeyEvent.VK_SPACE:
        case KeyEvent.VK_P:
            model.changePauseState();
            break;
        default:
    }
}
```



- Score Update
- Graphic Update
- **Settled Blocks**
- **Unsettled Block**

运行演示

分工合作

沈濤

- MySQL 登錄系統
- Menu 設計
- 簡單UI設計

姚澤輝

- Tetris Panel
- Tetris 模型設計
- 鍵盤輸入

自主學習

- KeyListener
- JMenu
- Observer / Observable
- Runnable / Thread
- MySQL

SQL 指令

```
//Connect to the host
myConn = DriverManager.getConnection("jdbc:mysql://"+HOST+":3306/tetris",
"tetris" , “tetris”);

//Login
myRs = myStmt.executeQuery("select * from score where username = ‘“ +
usernameInput + "' and password = '" + passwordInput + “'");

//Register
myStmt.executeUpdate("insert into tetris.score value(‘“ + usernameInput +
”’,'" + passwordInput + "','0');");

//Get Leaderboard
myRs = myStmt.executeQuery("select * from score order by score desc");

//Replace the old score with a new best score
myStmt.executeUpdate("update score set score=‘“ + bestscore + "' where
username = ‘“ + username + "';");
```

謝謝觀看