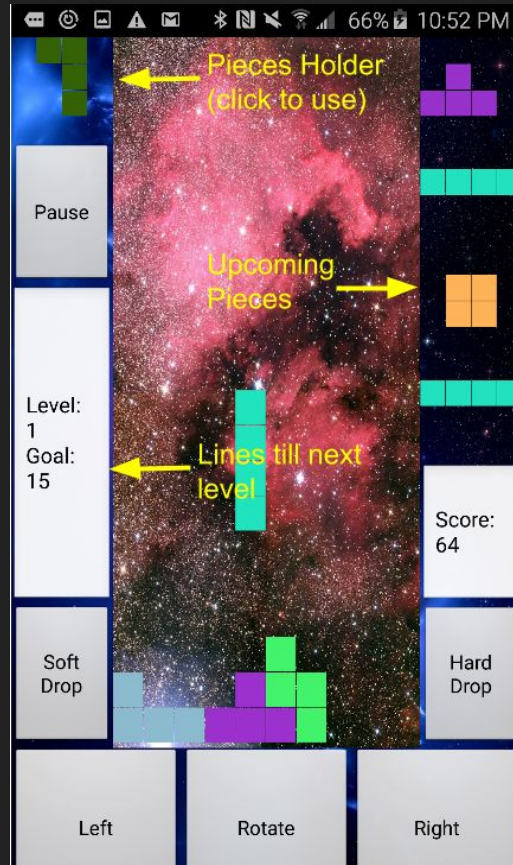# Android Tetris

CSCI 5448

Members

Nir Boneh - Menus functionality, game functionality, music and highscores server

Shirong Bai - Game functionality and layout designs

Lili Ji - Class Diagram and use case planning, sounds, and game functionality

Use Cases

Use Case #1

| Use Case ID:	UC-05	
Use Case Name:	View Help	
Description	Allow player to view the help instructions	
Actor	Player	
Pre-conditions:	Player is at main menu	
Post-conditions:		
Frequency of Use:	Whenever the user wishes to get help	
Flow of Events:	Actor Action	System Response
	1. Player press "Help" button from main menu	1.System displays the help images in a page slider format with buttons
Variations:		
Notes and Issues:		
Developer Notes:		

Use Case #2

| Use Case ID:	UC-04	
Use Case Name:	View High Score	
Description	Allow player to view the local and online high scores	
Actor	Player	
Pre-conditions:	Player is at main menu Player is at game over menu	
Post-conditions:	1. A new windows pop out shows the local high scores 2. Shows online high scores 3. Shows local high scores	
Frequency of Use:	Whenever the user wishes to view the highscores	
Flow of Events:	Actor Action	System Response
	1. Player press "Highscores" button from main menu	1.System displays local high scores
	2. Player press "Highscores" button from game over menu	2.System displays online high scores
Variations:		
Notes and Issues:		
Developer Notes:		

Design Patterns
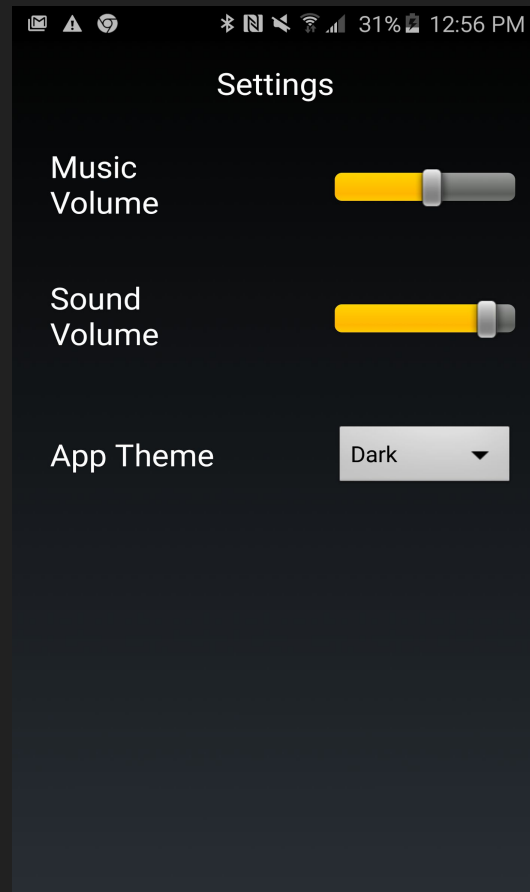
Design Pattern - Observer
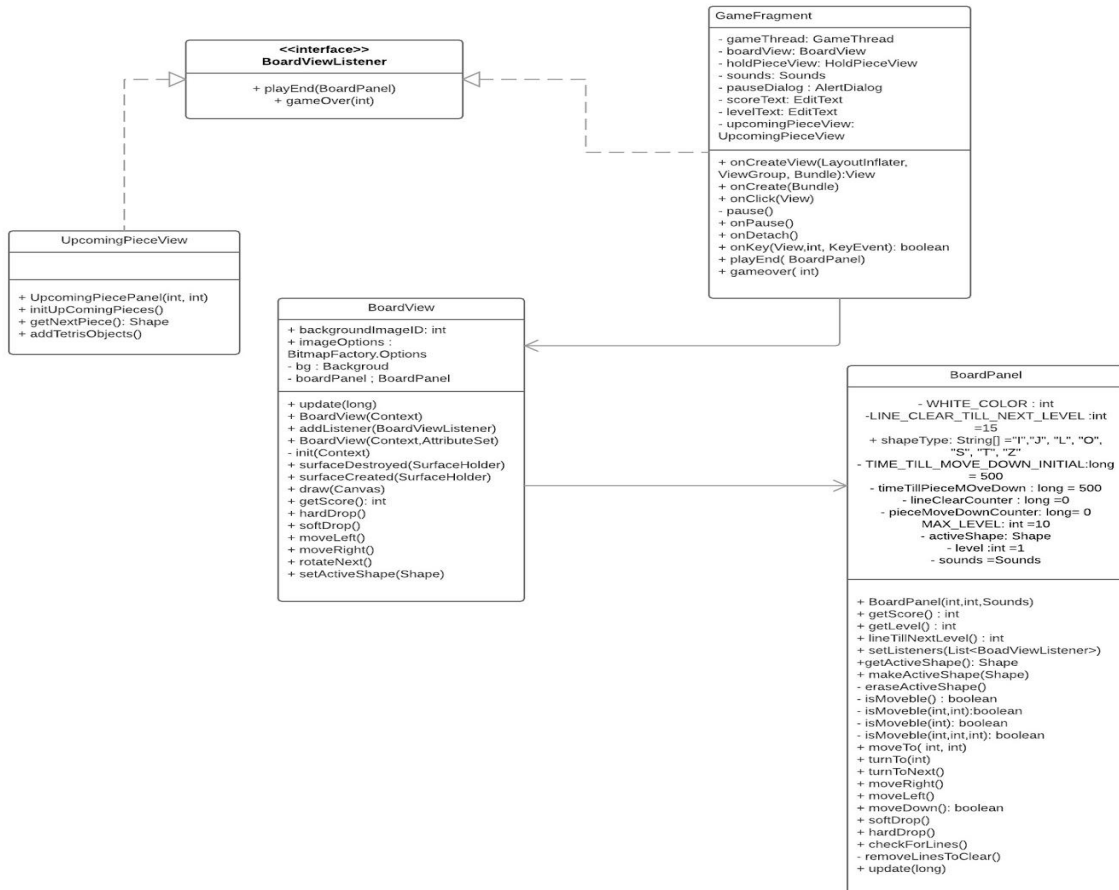
Design Pattern - Factory
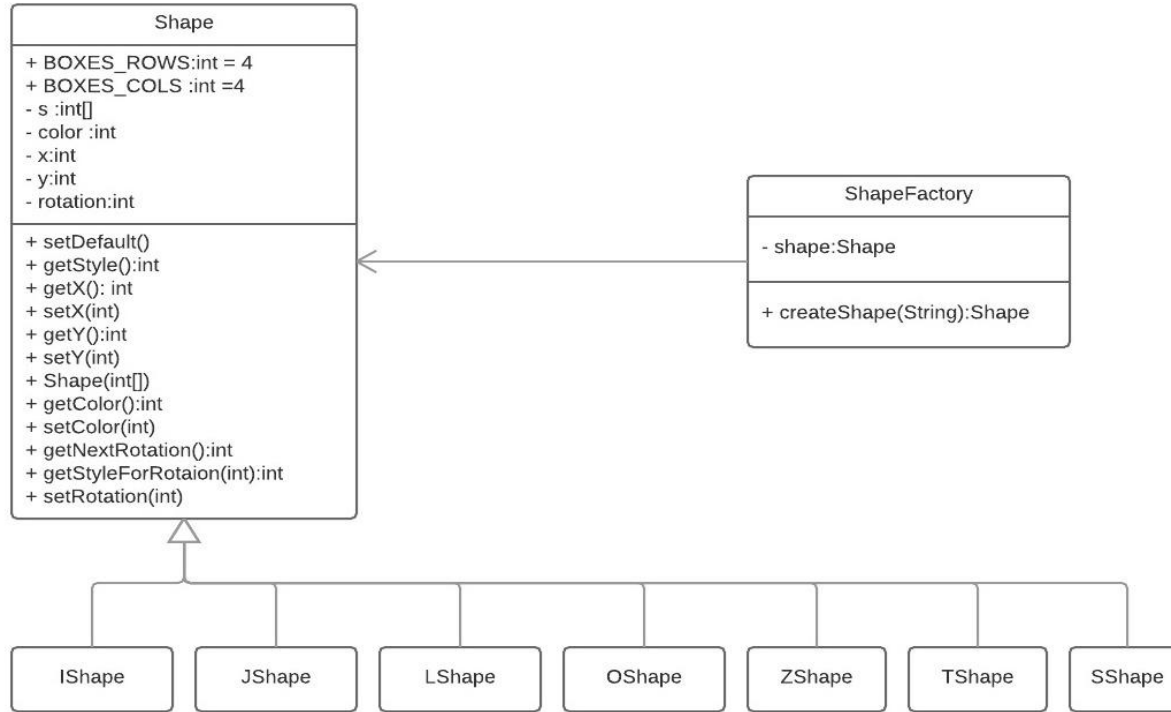
Design Pattern - Factory Continued

```java
package com.clouby.tetris.game.block;

public class ShapeFactory {
    public static Shape createShape(String type) {
        Shape shape = null;

        if (type.equals("I")) {
            shape = new IShape();
        } else if (type.equals("J")) {
            shape = new JShape();
        } else if (type.equals("L")) {
            shape = new LShape();
        } else if (type.equals("O")) {
            shape = new OShape();
        } else if (type.equals("S")) {
            shape = new SShape();
        } else if (type.equals("T")) {
            shape = new TShape();
        } else if (type.equals("Z")) {
            shape = new ZShape();
        }

        return shape;
    }

}
```

Design Pattern - Factory Continued

```java
public UpcomingPiecePanel(int rows, int cols) {
    super(rows, cols);
    rand = new Random();
    initUpComingPieces();
    addTetrisObjects();
}

public void initUpComingPieces() {
    for (int i = 0; i < UPCOMING_PIECES_SIZE; ++i) {
        upComingPieces.add(ShapeFactory.createShape(BoardPanel.shapeType[rand.nextInt(BoardPanel.shapeType.length)]));
    }
}
```

Video:

https://drive.google.com/a/colorado.
edu/file/d/0B1dZc_IwjaEhc0luNlZuT1g2ODQ/view?usp=sharing

Android Executable (Download with your phone):

https://drive.google.com/a/colorado.
edu/file/d/0B_ZwHbxzg2oAMDJyM2JDbWF2MVU/view?usp =sharing

Questions?