

## Group No. 21

### Members:

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Project: **GAME TETRIS (QT PLATFORM)**

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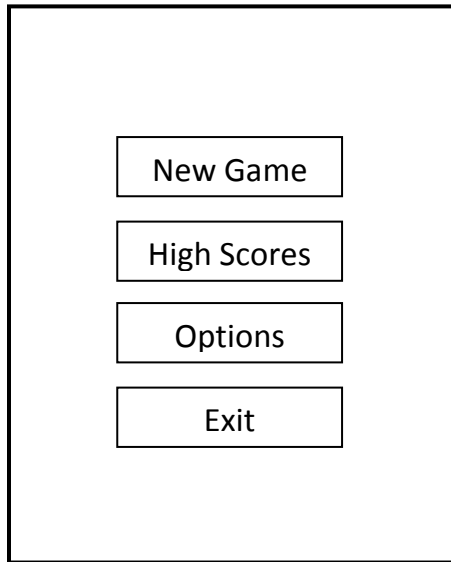
## WEEKLY REPORT

### 1. Feature List

Our project is the game Tetris. We will use QT platform to implement it. Our version is based on the rules of the classic Tetris that we all know. Specifically, these following features are likely to have:

Requirement ID	Description	Priority
REQ_01	Start a new game	High
REQ_02	Allow to choose the difficulty level for the game. There are 3 difficulty levels: Easy, Normal and Hard.	Medium
REQ_03	Allow user to choose whether to save his/her score.	High
REQ_04	Show the list of high scores that are saved before.	Medium
REQ_05	Player can pause/resume the current game.	High
REQ_06	Allow user to configure the game. E.g. Set sound on/off	Medium

## 2. Mock-up Design



A vertical rectangle representing a screen. Inside, four rectangular buttons are stacked vertically and centered. The buttons are labeled 'New Game', 'High Scores', 'Options', and 'Exit' from top to bottom.

### Home Screen

This screen shows the options when user starts the game. This screen includes 4 buttons. They are:

- *New game* button: go to playing status
- *High scores* button: view top score
- *Options* button: configure game before start game
- *Exit* button: exit game

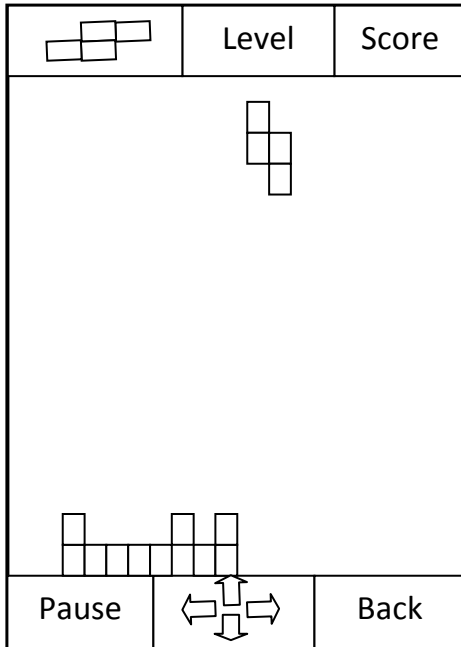


A vertical rectangle representing a screen. In the center, the text 'Your Name' is displayed above a horizontal rectangular input field. At the bottom of the screen, there is a horizontal bar containing two buttons: 'OK' on the left and 'Back' on the right.

### Input Name Screen

This screen appears to player when he/she reaches the game over status. It asks player to input his/her name.

Player can either ignore by click *Back* button or click *OK* button to store player's score with *your name field*.



## Playing Screen

This is the most important screen. Player plays game here!

The top of screen shows 3 parts which are:

- The left-most: show next figure
- The middle: show *level* of player (*easy*, *medium* or *hard*)
- The right-most: show *score* player has got

The center screen is an area which shows status game

The bottom of screen includes the controllers. They are:

- *Pause/Resume* button: pause/resume game
- *Back* button: back to *Home Screen*
- *4 Direction* buttons: use to control the figure block: go left, go right, go fast down, rotate figure

Craig	1000000
Huv	500
Bao	500
Ngan	500
Hieu	500
OK	

## View High Scores Screen

This screen shows the list of high scores. The table has two columns: the first column is player name and the second column is player's score

Player can click *OK* button to come back the *Home Screen*

A screenshot of a configuration screen. It features three rows, each with a text box and a checkbox. The first row has 'Option 1' and a checked checkbox. The second row has 'Option 2' and an unchecked checkbox. The third row has 'Option 3' and a checked checkbox. At the bottom, there are two buttons: 'OK' on the left and 'Back' on the right.

Option 1	<input checked="" type="checkbox"/>
Option 2	<input type="checkbox"/>
Option 3	<input checked="" type="checkbox"/>
OK Back	

### Configuration Screen

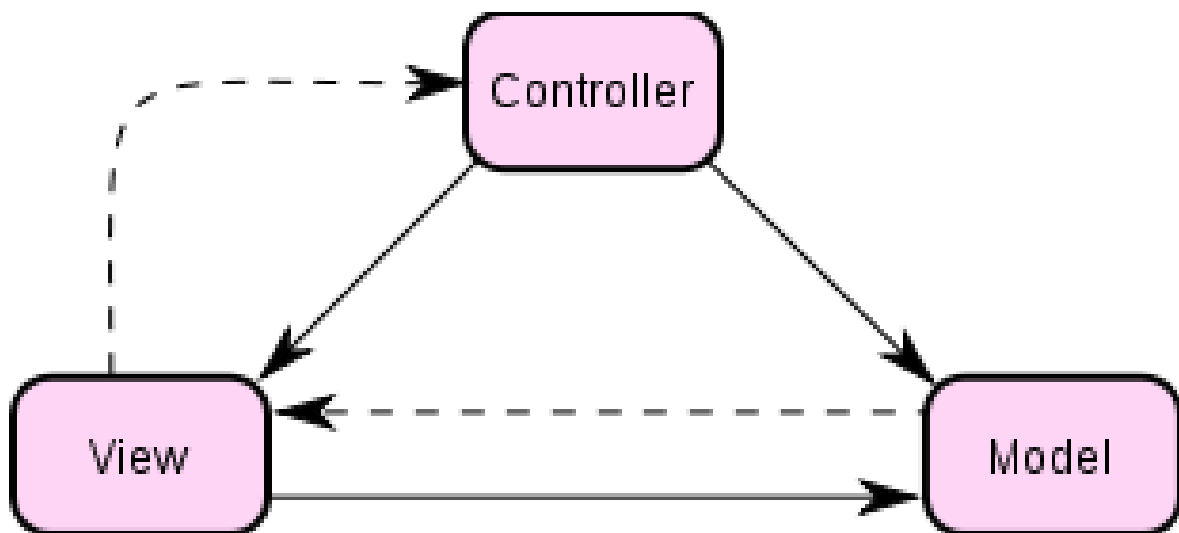
This screen shows the list of options that player can configure for his/her convenience.

If player click *OK*: all configurations are applied

If player click *Back*: all configurations are ignored

After player clicks *OK/Back* button, player will come back the *Home Screen*

### 3. Program design



## View

QML files implement the screens of game and accept the events from user.

## Controller

Controller handles the events from view and choose the appropriate operation in model to process them.

Controller in our game is Tetris.js file.

## Model

Model manipulates the logic of game.

## Example:

View raises a click event.

```
Button {
    id: btnShowScore
    anchors.horizontalCenter:
parent.horizontalCenter
    anchors.top: btnStart.bottom
    text: "Show Scores"
    onClicked:{
        btnShowScoreClick();
    }
}
```

```
onStatusChanged: {
    if(status == 2){
        Utils.showHighScore(1)
    }
}
```

```
function showHighScore(level){
var db = openDatabaseSync("TetrisScores", "1.0", "Local Tetris High
Scores",100);
db.transaction(
    function(tx) {
        tx.executeSql('CREATE TABLE IF NOT EXISTS Scores(name TEXT, score NUMBER,
level NUMBER)');
        var rs = tx.executeSql('SELECT * FROM Scores WHERE level = "level" ORDER
BY score desc LIMIT 10');
        var r = "\nHIGH SCORES for this grid size\n\n"
        for(var i = 0; i < rs.rows.length; i++){
            r += rs.rows.item(i).name + ' got '
            + rs.rows.item(i).score + ' points in '
            + rs.rows.item(i).level + ' \n';
        }
        dialog.show(r);
    }
);
}
```

## 4. Testing

ID	Owner	Date	Content	Result	Status	Comment
PRO_01	Group 21	10/06	-Start game -At <i>home screen</i> , press <i>exit</i> button to exit game	Game is exited	Passed	
PRO_02	Group 21	10/06	-Start game -At <i>home screen</i> , press <i>high score</i> button to display top ten high score -After viewing top ten score, press <i>back</i> button to come back <i>home screen</i> -In <i>home screen</i> , press <i>exit</i> to quit game	Game is exited	passed	
PRO_03	Group 21	10/06	-Start game -At <i>home screen</i> , click <i>option</i> button -After that, click <i>back</i> to come <i>home screen</i> and click <i>exit</i> to quit game	Game is quitted	passed	
PRO_04	Group 21	10/06	-Start game -At <i>home screen</i> , click <i>new game</i> button -After that, click <i>exit</i> to quit game	Game is quitted	passed	
PRO_05	Group 21	10/06	-Start game to go <i>home screen</i> -Click <i>option</i> button to configure game -After configuration finished, click <i>back</i> to come back <i>home screen</i> and click <i>new game</i> button. -In playing status, press <i>exit</i> to quit	Game starts with default configurations. Game is exited	Passed	
PRO_06	Group 21	10/06	-Start game to go <i>home screen</i> -Enter view <i>high score</i> status, after that click <i>back</i> to go <i>home screen</i> -At <i>home screen</i> , click <i>option</i> to enter <i>configuring status</i> . After configuration finished, click <i>back</i> -click <i>new game</i> to start play game	Game starts with the previous configurations.	Passed	
PRO_07	Group 21	10/06	-Start game to go <i>home screen</i> -Click <i>new game</i> to enter playing status -Play game until status is <i>game over</i>	Game over	Passed	
PRO_08	Group 21	10/06	-Start game to go <i>home screen</i>	-Game starts	Passed	

			<ul style="list-style-type: none"> <li>-Enter configure mode by clicking <i>option</i> button, after that click <i>ok</i> to go <i>home screen</i></li> <li>-Click <i>new game</i> to enter playing status.</li> <li>-In playing mode, click <i>pause</i> button to pause game, after that, click <i>resume</i> to resume game.</li> <li>-Play game until status is game over</li> </ul>	<ul style="list-style-type: none"> <li>with the effect of new configurations</li> <li>-Game over</li> </ul>		
PRO_09	Group 21	10/06	<ul style="list-style-type: none"> <li>-Start game to go <i>home screen</i></li> <li>-Click <i>new game</i> to enter playing mode</li> <li>-After some minutes, click <i>back</i> button to come back <i>home screen</i></li> <li>-At <i>home screen</i>, click <i>new game</i> button to enter playing mode</li> <li>-After that, click <i>exit</i> button</li> </ul>	<ul style="list-style-type: none"> <li>-After new game button is clicked for the second time, new playing mode is created.</li> <li>-After exit, game is exited</li> </ul>	Passed	
PRO_10	Group 21	10/06	<ul style="list-style-type: none"> <li>-Start game to go <i>home screen</i></li> <li>-Click <i>new game</i> button and play game until status is game over</li> <li>-After save score with name that is entered from player, click <i>back</i> to go <i>home screen</i></li> <li>-Press <i>high score</i> to view high score</li> <li>After viewing, click <i>back</i> to <i>home screen</i> and click <i>exit</i> to quit</li> </ul>	<ul style="list-style-type: none"> <li>-After click high score, player will see his/her name in high score list if he/she is in top ten players who play the best</li> <li>-Game is exited</li> </ul>	Passed	
PRO_11	Group 21	10/06	<ul style="list-style-type: none"> <li>-Start game to go <i>home screen</i></li> <li>-Click <i>Option</i> to go configure mode</li> <li>-Change current configure and click <i>OK</i></li> <li>-Click <i>new game</i> to enter the playing mode</li> <li>-Play game until status is game over</li> </ul>	<ul style="list-style-type: none"> <li>-Game starts with new configurations</li> </ul>	Passed	
SYS_01	Group 21	10/06	<ul style="list-style-type: none"> <li>-Start game to go <i>home screen</i></li> <li>-At <i>home screen</i>, player has <i>phone call</i></li> </ul>	<ul style="list-style-type: none"> <li>Application is exited</li> </ul>	---	
SYS_02	Group 21	10/06	<ul style="list-style-type: none"> <li>-Start game to go <i>home screen</i></li> <li>-Click <i>new game</i> to enter playing mode</li> </ul>	<ul style="list-style-type: none"> <li>Application is exited</li> </ul>	---	

			-Click <i>end phone call</i>			
SYS_03	Group 21	10/06	-Start game to go <i>home screen</i> -Click <i>new game</i> to enter playing mode -In playing mode, <i>device loss battery</i>	Application is exited and the game state is lost	---	

**Note:** Tetris game which is used for testing is the version 1.1. The best device is Nokia N9. Some another devices done with testing are Nokia N900, Nokia N97 and Nokia N8