

Junkbot - Scrabble V4

Assignment 4 - Challenge

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# Chapter 1

## Namespace Index

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Here are the packages with brief descriptions (if available):

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## Chapter 2

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### 2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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## Chapter 3

# Class Index

### 3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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## Chapter 4

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## Chapter 5

# Namespace Documentation

### 5.1 Package scrabbleGame

#### Packages

- package [exceptions](#)
- package [gameEngine](#)
- package [gameModel](#)
- package [UI](#)

### 5.2 Package scrabbleGame.exceptions

#### Classes

- class [TileNotFound](#)

### 5.3 Package scrabbleGame.gameEngine

#### Classes

- class [Scrabble](#)
- class [ScrabbleEngineController](#)
- class [UI](#)

### 5.4 Package scrabbleGame.gameModel

#### Classes

- class [Board](#)
- class [Frame](#)
- class [Lexicon](#)
- class [MainTest](#)
- class [Move](#)
- class [Placement](#)
- class [Player](#)
- class [Pool](#)
- class [Square](#)
- enum [Tile](#)

## 5.5 Package scrabbleGame.UI

### Packages

- package [components](#)
- package [utilityPanels](#)

## 5.6 Package scrabbleGame.UI.components

### Classes

- class [BoardController](#)
- class [ConsoleController](#)
- class [FrameController](#)
- class [Timer](#)

## 5.7 Package scrabbleGame.UI.utilityPanels

### Classes

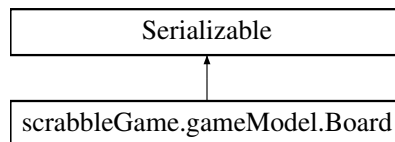
- class [ImageViewPanel](#)
- class [SquarePanel](#)
- class [TilePanel](#)

## Chapter 6

# Class Documentation

### 6.1 scrabbleGame.gameModel.Board Class Reference

Inheritance diagram for scrabbleGame.gameModel.Board:



#### Public Member Functions

- [Square](#)[][] [getBoard](#) ()
- gameStatus [getStatus](#) ()
- void [setStatus](#) (gameStatus status)
- ArrayList< String > [getWordsPlayed](#) ()
- void [addWordPlayed](#) (Move m)
- [Board](#) ()
- void [resetBoard](#) ()
- int [placeWord](#) (Move m, [Player](#) p)
- int [placeFirstWord](#) (Move m, [Player](#) p)
- void [printBoard](#) ()
- String [toString](#) ()

#### 6.1.1 Detailed Description

##### [Board](#) Class

This class represents the [Board](#) in Scrabble. The board is a 15 x 15 array of squares. The board has several methods of adding words to the board and initialising it. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

**Author**

Cal Nolan, Reuben Mulligan, Evan Spendlove

**Version**

1.0.0

**Since**

21-02-2020

## 6.1.2 Constructor & Destructor Documentation

### 6.1.2.1 Board()

```
scrabbleGame.gameModel.Board.Board ( )
```

Constructor for the [Board](#) object. This initialises the board object and then calls `setBoard()` to read in the board format.

**Author**

Reuben Mulligan

## 6.1.3 Member Function Documentation

### 6.1.3.1 addWordPlayed()

```
void scrabbleGame.gameModel.Board.addWordPlayed (
    Move m )
```

Adds a word played to the wordPlayed ArrayList.

**Parameters**

<i>m</i>	Pass the word that you want to add.
----------	-------------------------------------

**Author**

Reuben Mulligan

### 6.1.3.2 getBoard()

```
Square [][] scrabbleGame.gameModel.Board.getBoard ( )
```

Getter for the board object.

#### Returns

square[][] Returns the board which is a 2D array of squares.

#### Author

Reuben Mulligan

### 6.1.3.3 getStatus()

```
gameStatus scrabbleGame.gameModel.Board.getStatus ( )
```

Getter for the current game status.

#### Returns

gameStatus Returns the current game status (as an enum).

#### Author

Reuben Mulligan

### 6.1.3.4 getWordsPlayed()

```
ArrayList<String> scrabbleGame.gameModel.Board.getWordsPlayed ( )
```

Getter for the array list of words player so far.

#### Returns

ArrayList Returns the ArrayList of strings (i.e. words) already played on the board.

#### Author

Reuben Mulligan

### 6.1.3.5 placeFirstWord()

```
int scrabbleGame.gameModel.Board.placeFirstWord (
    Move m,
    Player p )
```

Method to handle the first word placed in a game. Calls checkFirstMove to check if the word is valid, and then adds the word to the board.

**Parameters**

<i>m</i>	Pass the move that you wish to place on the board.
<i>p</i>	Pass the player who made the move so their score can be updated.

**Returns**

int Returns 2 if the move is successfully placed (also valid), and -1 if not placed.

**Author**

Cal Nolan

**6.1.3.6 placeWord()**

```
int scrabbleGame.gameModel.Board.placeWord (
    Move m,
    Player p )
```

Method for placing a word on the board. Calls checkValidMove() to validate a move before it is placed.

**Parameters**

<i>m</i>	Pass the move that you wish to place on the board.
<i>p</i>	Pass the player who made the move so their score can be updated.

**Returns**

int Returns 2 if the move is successfully placed (also valid), and -1 if not placed.

**Author**

Evan Spendlove

**6.1.3.7 printBoard()**

```
void scrabbleGame.gameModel.Board.printBoard ( )
```

Displays the board in ASCII format to the command line.

**Author**

Reuben Mulligan



### 6.1.3.8 resetBoard()

```
void scrabbleGame.gameModel.Board.resetBoard ( )
```

This method resets the board to its default state. It clears the words played and tiles from the board.

#### Author

Reuben Mulligan

### 6.1.3.9 setStatus()

```
void scrabbleGame.gameModel.Board.setStatus (
    gameStatus status )
```

Setter for updating the current game status.

#### Parameters

<i>status</i>	Pass the new game status.
---------------	---------------------------

#### Author

Reuben Mulligan

### 6.1.3.10 toString()

```
String scrabbleGame.gameModel.Board.toString ( )
```

Returns a user-friendly string representation of the board.

#### Returns

String Returns the string representation of the board.

#### Author

Evan Spendlove

The documentation for this class was generated from the following file:

- gameModel/[Board.java](#)

## 6.2 scrabbleGame.UI.components.BoardController Class Reference

### Public Member Functions

- [Board](#) [getBoardObject](#) ()
- void [setBoardObject](#) ([Board](#) boardObject)
- [SquarePane](#)[][] [getBoard](#) ()
- void [setBoard](#) ([SquarePane](#)[][] board)
- [TilePane](#) [removeTileFromBoard](#) (int x, int y) throws [TileNotFound](#)
- void [updateBoard](#) ([Board](#) b)

### 6.2.1 Detailed Description

#### [BoardController](#) Class

This class is the controller for the board. This class contains all of the methods for interacting with the board Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Evan Spendlove

#### Version

1.0.0

#### Since

26-03-2020

### 6.2.2 Member Function Documentation

#### 6.2.2.1 [getBoard\(\)](#)

```
SquarePane [][] scrabbleGame.UI.components.BoardController.getBoard ( )
```

Getter for the board ([SquarePane](#) array)

#### Returns

[SquarePane](#)[][] Returns the board as a [SquarePane](#) array.

### 6.2.2.2 getBoardObject()

```
Board scrabbleGame.UI.components.BoardController.getBoardObject ( )
```

Getter for the board object.

#### Returns

Board Returns the board object.

### 6.2.2.3 removeTileFromBoard()

```
TilePane scrabbleGame.UI.components.BoardController.removeTileFromBoard (
    int x,
    int y ) throws TileNotFound
```

Method for removing a tile from the board based on x, y coordinates.

#### Parameters

<i>x</i>	Pass the x coordinate of the tile
<i>y</i>	Pass the y coordinate of the tile

#### Returns

TilePane Returns the tilePane object that was removed from the Board.

#### Exceptions

<i>TileNotFound</i>	Throws an exception if not Tile is found on the board at that location.
---------------------	---

### 6.2.2.4 setBoard()

```
void scrabbleGame.UI.components.BoardController.setBoard (
    SquarePane board[ ][ ] )
```

Setter for the board (SquarePane array)

#### Parameters

<i>board</i>	Pass the board to be set.
--------------	---------------------------

### 6.2.2.5 setBoardObject()

```
void scrabbleGame.UI.components.BoardController.setBoardObject (
    Board boardObject )
```

Setter for the board object.

#### Parameters

<i>boardObject</i>	Pass the board object to be set.
--------------------	----------------------------------

### 6.2.2.6 updateBoard()

```
void scrabbleGame.UI.components.BoardController.updateBoard (
    Board b )
```

Method for updating the board and its graphical representation.

#### Parameters

<i>b</i>	Pass the new board to be set.
----------	-------------------------------

The documentation for this class was generated from the following file:

- UI/components/[BoardController.java](#)

## 6.3 scrabbleGame.UI.components.ConsoleController Class Reference

### Public Member Functions

- String [getLastCommand](#) ()
- void [setLastCommand](#) (String lastCommand)
- [ScrabbleEngineController](#) [getScrabbleEngineController](#) ()
- void [setScrabbleEngineController](#) ([ScrabbleEngineController](#) scrabbleEngineController)
- void [addLineToConsole](#) (String s)
- List< [Placement](#) > [createPlacement](#) (String word, int[] gridRef, int direction)
- void [updateLastWordsPlayed](#) (String word)
- void [setLastMoveScore](#) (int score)
- int [getLastMoveScore](#) ()
- ArrayList< String > [getLastWordsPlayed](#) ()
- void [challengeWord](#) (String word) throws TileNotFound
- void [removeWordFromBoard](#) ([Move](#) word) throws TileNotFound
- void [addTilesToFrame](#) ([Move](#) lastMove, int prevPlayer)
- void [deductScore](#) (int scoreLastWord, int prevPlayer)
- void [setLastMove](#) ([Move](#) m)
- [Move](#) [getLastMove](#) ()

### 6.3.1 Detailed Description

#### ConsoleController Class

This is the Console Controller class, this will handle all of the input and output for the console menu of our scrabble game Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

##### Author

Reuben Mulligan, Evan Spendlove

##### Version

1.0.0

##### Since

18-03-20

### 6.3.2 Member Function Documentation

#### 6.3.2.1 addLineToConsole()

```
void scrabbleGame.UI.components.ConsoleController.addLineToConsole (
    String s )
```

Method takes an input string and appends it to the console window

##### Parameters

<i>s</i>	The string you want to add to the console
----------	---

##### Author

Evan Spendlove

#### 6.3.2.2 addTilesToFrame()

```
void scrabbleGame.UI.components.ConsoleController.addTilesToFrame (
    Move lastMove,
    int prevPlayer )
```

Method addTilesToFrame takes a move and a player number and adds the tiles they played from the last turn back to their frame

## Parameters

<i>lastMove</i>	Pass the lastMove - the tiles from this will be added to the frame.
<i>prevPlayer</i>	Pass the previous player whose frame is to be updated.

**6.3.2.3 challengeWord()**

```
void scrabbleGame.UI.components.ConsoleController.challengeWord (
    String word ) throws TileNotFound
```

Method challengeWord takes a word and checks if it is a real word against a set dictionary, if it isn't it removes the previous players turn. If the challenge fails, it ends the players turn.

## Parameters

<i>word</i>	Pass the word to be challenge.
-------------	--------------------------------

## Exceptions

<i>TileNotFound</i>	Throws a TileNotFound if the tile to be removed for a move cannot be found on the board.
---------------------	--

**6.3.2.4 createPlacement()**

```
List<Placement> scrabbleGame.UI.components.ConsoleController.createPlacement (
    String word,
    int[] gridRef,
    int direction )
```

Method createPlacement takes a word, grid reference and a direction and create a list of Placement Objects from it

## Parameters

<i>word</i>	Pass the word to be set for the placement.
<i>gridRef</i>	Pass the array [x, y] of integer grid references.
<i>direction</i>	Pass the direction of the placement : 0 = horizontal, 1 = vertical

## Returns

placements, a list of Placement objects

**6.3.2.5 deductScore()**

```
void scrabbleGame.UI.components.ConsoleController.deductScore (
    int scoreLastWord,
    int prevPlayer )
```

Method deductScore takes a score for the last word and a player number and adjusts the players score accordingly

**Parameters**

<i>scoreLastWord</i>	Pass the score of the last word to be deducted from the Player's score.
<i>prevPlayer</i>	Pass the player number to be updated

**6.3.2.6 getLastCommand()**

```
String scrabbleGame.UI.components.ConsoleController.getLastCommand ( )
```

Getter for lastCommand

**Returns**

lastCommand

**6.3.2.7 getLastMove()**

```
Move scrabbleGame.UI.components.ConsoleController.getLastMove ( )
```

Getter for lastMove which returns the lastMove played.

**Returns**

lastMove Returns the lastMove played.

**6.3.2.8 getLastMoveScore()**

```
int scrabbleGame.UI.components.ConsoleController.getLastMoveScore ( )
```

Getter for lastMoveScore

**Returns**

int Returns the lastMoveScore integer variable

### 6.3.2.9 getLastWordsPlayed()

```
ArrayList<String> scrabbleGame.UI.components.ConsoleController.getLastWordsPlayed ( )
```

Getter for lastWordsPlayed

#### Returns

ArrayList(String) Returns the lastWordsPlayed variable.

### 6.3.2.10 getScrabbleEngineController()

```
ScrabbleEngineController scrabbleGame.UI.components.ConsoleController.getScrabbleEngine←  
Controller ( )
```

Getter for ScrabbleEngineController

#### Returns

scrabbleEngineController

### 6.3.2.11 removeWordFromBoard()

```
void scrabbleGame.UI.components.ConsoleController.removeWordFromBoard (   
    Move word ) throws TileNotFound
```

Method removeWordFromBoard takes a move and removes the tiles from the board.

#### Parameters

<i>word</i>	Pass the move to be removed from the board.
-------------	---

#### Exceptions

<i>TileNotFound</i>	Throws a TileNotFound if the tile to be removed for a move cannot be found on the board.
---------------------	--

### 6.3.2.12 setLastCommand()

```
void scrabbleGame.UI.components.ConsoleController.setLastCommand (   
    String lastCommand )
```

Setter for lastCommand



## Parameters

<i>lastCommand</i>	Pass the string to be set
--------------------	---------------------------

**6.3.2.13 setLastMove()**

```
void scrabbleGame.UI.components.ConsoleController.setLastMove (
    Move m )
```

Setter for lastMove.

## Parameters

<i>m</i>	Pass the move to be set.
----------	--------------------------

**6.3.2.14 setLastMoveScore()**

```
void scrabbleGame.UI.components.ConsoleController.setLastMoveScore (
    int score )
```

Setter for lastMoveScore

## Parameters

<i>score</i>	Pass the score to update lastMoveScore with.
--------------	--

**6.3.2.15 setScrabbleEngineController()**

```
void scrabbleGame.UI.components.ConsoleController.setScrabbleEngineController (
    ScrabbleEngineController scrabbleEngineController )
```

Setter for ScrabbleEngineController

## Parameters

<i>scrabbleEngineController</i>	Pass the controller to be set
---------------------------------	-------------------------------

**6.3.2.16 updateLastWordsPlayed()**

```
void scrabbleGame.UI.components.ConsoleController.updateLastWordsPlayed (
    String word )
```

Method `updateLastWordsPlayed` takes a word and adds it to the `lastWordsPlayed` function

#### Parameters

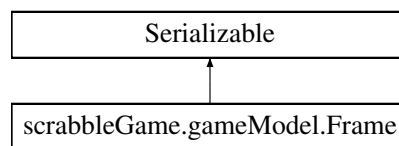
<code>word</code>	Pass the word to be added to <code>lastWordsPlayed</code>
-------------------	---

The documentation for this class was generated from the following file:

- `UI/components/ConsoleController.java`

## 6.4 scrabbleGame.gameModel.Frame Class Reference

Inheritance diagram for `scrabbleGame.gameModel.Frame`:



### Public Member Functions

- `ArrayList< Tile > getTiles ()`
- `Frame (ArrayList< Tile > startingTiles)`
- `Frame (Pool p)`
- `Frame ()`
- `void addTile (Tile letter)`
- `void exchangeBlank (Tile t)`
- `boolean containsTile (Tile letter)`
- `boolean containsTile (char letter)`
- `Tile getTile (char letter)`
- `Tile playTile (Tile letter)`
- `Tile discardTile (Tile letter)`
- `boolean isEmpty ()`
- `void refillFrame (Pool pool)`
- `String toString ()`

### 6.4.1 Detailed Description

#### Frame Class

This class represents the `Frame` (Rack) in Scrabble. The frame contains up to 7 tiles. It has methods for removing and adding tiles. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Evan Spendlove

#### Version

1.0.0

#### Since

07-02-2020

## 6.4.2 Constructor & Destructor Documentation

### 6.4.2.1 Frame() [1/3]

```
scrabbleGame.gameModel.Frame.Frame (
    ArrayList< Tile > startingTiles )
```

Constructor which takes an ArrayList of tiles as an argument for initialising tiles field.

#### Parameters

<i>startingTiles</i>	Pass this argument to initialise the frame with up to 7 tiles.
----------------------	--

### 6.4.2.2 Frame() [2/3]

```
scrabbleGame.gameModel.Frame.Frame (
    Pool p )
```

Constructor which takes an instance of [Pool](#) as an argument and initialises tiles field using [refillFrame\(\)](#).

#### Parameters

<i>p</i>	Pass this argument to initialise the frame with tiles from the <a href="#">Pool</a> .
----------	---

### 6.4.2.3 Frame() [3/3]

```
scrabbleGame.gameModel.Frame.Frame ( )
```

Empty constructor which initialises the tiles ArrayList to a new ArrayList with capacity for 7 tiles.

## 6.4.3 Member Function Documentation

### 6.4.3.1 addTile()

```
void scrabbleGame.gameModel.Frame.addTile (
    Tile letter )
```

Private method used for adding tiles to the [Frame](#).

**Parameters**

<i>letter</i>	Pass the tile that you want to add to the <a href="#">Frame</a> .
---------------	---

**6.4.3.2 containsTile()** [1/2]

```
boolean scrabbleGame.gameModel.Frame.containsTile (  
    char letter )
```

Method used for checking if the rack contains a given tile.

**Parameters**

<i>letter</i>	Pass the letter that you want to check ( <a href="#">Tile</a> conversion done by method).
---------------	---

**Returns**

boolean Returns true if the rack contains the tile, else false.

**6.4.3.3 containsTile()** [2/2]

```
boolean scrabbleGame.gameModel.Frame.containsTile (  
    Tile letter )
```

Method used for checking if the rack contains a given tile.

**Parameters**

<i>letter</i>	Pass the tile that you want to check.
---------------	---------------------------------------

**Returns**

boolean Returns true if the rack contains the tile, else false.

**6.4.3.4 discardTile()**

```
Tile scrabbleGame.gameModel.Frame.discardTile (  
    Tile letter )
```

Method used for discarding a tile that you do not want.

## Parameters

<i>letter</i>	Pass the tile that you do not want to keep.
---------------	---

## Returns

[Tile](#) Returns the tile that you are discarding.

### 6.4.3.5 exchangeBlank()

```
void scrabbleGame.gameModel.Frame.exchangeBlank (
    Tile t )
```

Method to exchange a blank tile for a different tile when it is being played.

## Parameters

<i>t</i>	Pass the tile which is to be exchanged.
----------	---

### 6.4.3.6 getTile()

```
Tile scrabbleGame.gameModel.Frame.getTile (
    char letter )
```

Method used for getting a tile from the rack

## Parameters

<i>letter</i>	Pass the letter that you want to get.
---------------	---------------------------------------

## Returns

[Tile](#) Returns the [Tile](#) for the given letter on the rack.

### 6.4.3.7 getTiles()

```
ArrayList<Tile> scrabbleGame.gameModel.Frame.getTiles ( )
```

Getter for tiles ArrayList.

## Returns

ArrayList Returns the ArrayList of tiles stored in the [Frame](#).

#### 6.4.3.8 isEmpty()

```
boolean scrabbleGame.gameModel.Frame.isEmpty ( )
```

Method used for checking if the rack is currently empty.

##### Returns

boolean Returns true if the rack is empty, else false.

#### 6.4.3.9 playTile()

```
Tile scrabbleGame.gameModel.Frame.playTile (
    Tile letter )
```

Method used for playing a tile on the board.

##### Parameters

<i>letter</i>	Pass the tile that you want to play.
---------------	--------------------------------------

##### Returns

Tile Returns the tile after removing it from the rack.

#### 6.4.3.10 refillFrame()

```
void scrabbleGame.gameModel.Frame.refillFrame (
    Pool pool )
```

Method used for refilling the frame to the full 7 tiles from a pool.

##### Parameters

<i>pool</i>	Pass the pool from which the letters will be drawn.
-------------	---

#### 6.4.3.11 toString()

```
String scrabbleGame.gameModel.Frame.toString ( )
```

Method overriding [toString\(\)](#) from Object to allow custom String for printing

**Returns**

String Returns a custom String representation of this Class

The documentation for this class was generated from the following file:

- [gameModel/Frame.java](#)

## 6.5 scrabbleGame.UI.components.FrameController Class Reference

### Public Member Functions

- [Frame](#) [getFrameObj](#) ()
- void [setFrameObj](#) ([Frame](#) frameObj)
- [TilePane\[\]](#) [getRack](#) ()
- void [setRack](#) ([TilePane\[\]](#) rack)
- [GridPane](#) [getFramePanels](#) ()
- void [setFramePanels](#) ([GridPane](#) framePanels)
- [ScrabbleEngineController](#) [getScrabbleEngineController](#) ()
- void [setScrabbleEngineController](#) ([ScrabbleEngineController](#) scrabbleEngineController)
- void [updateFrame](#) ([Frame](#) f)
- [TilePane](#) [playTile](#) (int offset)
- void [clearFrame](#) ()
- void [refillFrame](#) ([Pool](#) p)
- int [exchangeTiles](#) (char[] toChange) throws [IllegalArgumentException](#)
- void [playWord](#) ([Move](#) m)

### 6.5.1 Member Function Documentation

#### 6.5.1.1 clearFrame()

```
void scrabbleGame.UI.components.FrameController.clearFrame ( )
```

Method to clear the frame and its graphical representation.

#### 6.5.1.2 exchangeTiles()

```
int scrabbleGame.UI.components.FrameController.exchangeTiles (
    char[] toChange ) throws IllegalArgumentException
```

Method to exchange tiles for new tiles in the pool.

#### Parameters

<i>toChange</i>	Pass the array of characters that you want to exchange.
-----------------	---

**Returns**

int Returns an error-code (-1) if the exchange is unsuccessful.

**Exceptions**

<i>IllegalArgumentException</i>	Throws an exception if the frame does not contain the tiles to be exchanged.
---------------------------------	--

**6.5.1.3 getFrameObj()**

```
Frame scrabbleGame.UI.components.FrameController.getFrameObj ( )
```

**6.5.1.4 getFramePanels()**

```
GridPane scrabbleGame.UI.components.FrameController.getFramePanels ( )
```

**6.5.1.5 getRack()**

```
TilePane [ ] scrabbleGame.UI.components.FrameController.getRack ( )
```

**6.5.1.6 getScrabbleEngineController()**

```
ScrabbleEngineController scrabbleGame.UI.components.FrameController.getScrabbleEngineController  
( )
```

**6.5.1.7 playTile()**

```
TilePane scrabbleGame.UI.components.FrameController.playTile (   
    int offset )
```

Method to play a tile which updates the frame after the letter is played.

**Parameters**

<i>offset</i>	Pass the offset (index in the frame object) of the Tile to be played.
---------------	---



### Returns

TilePane Returns the tilePane object that is to be played on the board.

#### 6.5.1.8 playWord()

```
void scrabbleGame.UI.components.FrameController.playWord (
    Move m )
```

Method to ply a word and remove its letters from the frame.

#### Parameters

<i>m</i>	Pass the move to be played.
----------	-----------------------------

#### 6.5.1.9 refillFrame()

```
void scrabbleGame.UI.components.FrameController.refillFrame (
    Pool p )
```

Method to refill the frame (and its graphical representation) using a pool.

#### Parameters

<i>p</i>	Pass the pool from which the letters are drawn.
----------	---

#### 6.5.1.10 setFrameObj()

```
void scrabbleGame.UI.components.FrameController.setFrameObj (
    Frame frameObj )
```

#### 6.5.1.11 setFramePanels()

```
void scrabbleGame.UI.components.FrameController.setFramePanels (
    GridPane framePanels )
```

#### 6.5.1.12 setRack()

```
void scrabbleGame.UI.components.FrameController.setRack (
    TilePane[] rack )
```

#### 6.5.1.13 setScrabbleEngineController()

```
void scrabbleGame.UI.components.FrameController.setScrabbleEngineController (
    ScrabbleEngineController scrabbleEngineController )
```

#### 6.5.1.14 updateFrame()

```
void scrabbleGame.UI.components.FrameController.updateFrame (
    Frame f )
```

Method to update the frame object and the visual representation of the frame.

##### Parameters

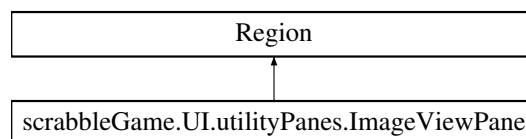
<i>f</i>	Pass the frame to be set.
----------	---------------------------

The documentation for this class was generated from the following file:

- UI/components/[FrameController.java](#)

## 6.6 scrabbleGame.UI.utilityPanes.ImageViewPane Class Reference

Inheritance diagram for scrabbleGame.UI.utilityPanes.ImageViewPane:



### Public Member Functions

- ObjectProperty< ImageView > [imageViewProperty](#) ()
- ImageView [getImageView](#) ()
- void [setImageView](#) (ImageView imageView)
- [ImageViewPane](#) ()
- [ImageViewPane](#) (ImageView imageView)

## Protected Member Functions

- void [layoutChildren](#) ()

### 6.6.1 Detailed Description

#### [ImageViewPane](#) Class

This class is a modified ImageView which allows for the image to scale with the screen. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

##### Version

1.0.0

##### Since

18-03-2020

### 6.6.2 Constructor & Destructor Documentation

#### 6.6.2.1 [ImageViewPane](#)() [1/2]

```
scrabbleGame.UI.utilityPanes.ImageViewPane.ImageViewPane ( )
```

Constructor for [ImageViewPane](#)

#### 6.6.2.2 [ImageViewPane](#)() [2/2]

```
scrabbleGame.UI.utilityPanes.ImageViewPane.ImageViewPane (
    ImageView imageView )
```

Constructor for [ImageViewPane](#) which adds a listener for the the imageView being updated.

##### Parameters

<i>imageView</i>	Pass the ImageView object to be set.
------------------	--------------------------------------

### 6.6.3 Member Function Documentation

### 6.6.3.1 `getImageView()`

```
ImageView scrabbleGame.UI.utilityPanels.ImageViewPane.getImageView ( )
```

Getter for ImageView

#### Returns

ImageView

### 6.6.3.2 `imageViewProperty()`

```
ObjectProperty<ImageView> scrabbleGame.UI.utilityPanels.ImageViewPane.imageViewProperty ( )
```

Getter for imageViewProperty

#### Returns

ObjectProperty

### 6.6.3.3 `layoutChildren()`

```
void scrabbleGame.UI.utilityPanels.ImageViewPane.layoutChildren ( ) [protected]
```

Method for laying out child objects of the imageViewPane

### 6.6.3.4 `setImageView()`

```
void scrabbleGame.UI.utilityPanels.ImageViewPane.setImageView (
    ImageView imageView )
```

Setter for ImageView

#### Parameters

<i>imageView</i>	Pass the ImageView to be set
------------------	------------------------------

The documentation for this class was generated from the following file:

- UI/utilityPanels/[ImageViewPane.java](#)

## 6.7 scrabbleGame.gameModel.Lexicon Class Reference

### Public Member Functions

- [Lexicon](#) ()

### Static Public Member Functions

- static void [readInDict](#) ()
- static boolean [checkWord](#) (String word)
- static int [size](#) ()

#### 6.7.1 Detailed Description

Public class to provide a HashSet that can be used to find whether a given word is in the dictionary Team: JunkBot  
Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Cal Nolan

#### Version

1.0.0

#### Since

03-03-2020

#### 6.7.2 Constructor & Destructor Documentation

##### 6.7.2.1 Lexicon()

```
scrabbleGame.gameModel.Lexicon.Lexicon ( )
```

Blank constructor which initialises the dictionary by calling [readInDict\(\)](#)

#### 6.7.3 Member Function Documentation

##### 6.7.3.1 checkWord()

```
static boolean scrabbleGame.gameModel.Lexicon.checkWord (
    String word ) [static]
```

Checks whether a given word exists within the dictionary

**Parameters**

<i>word</i>	The word to be checked
-------------	------------------------

**Returns**

True if the word is found in the dictionary, else returns false

**6.7.3.2 readInDict()**

```
static void scrabbleGame.gameModel.Lexicon.readInDict ( ) [static]
```

Static method to initialise the dictionary and read in from a text file containing all words.

**6.7.3.3 size()**

```
static int scrabbleGame.gameModel.Lexicon.size ( ) [static]
```

Returns the size of the dictionary (as a HashSet)

**Returns**

int Returns the size of the HashSet as an int

The documentation for this class was generated from the following file:

- gameModel/[Lexicon.java](#)

## 6.8 scrabbleGame.gameModel.MainTest Class Reference

### Static Public Member Functions

- static void [main](#) (String[] args)

#### 6.8.1 Member Function Documentation

**6.8.1.1 main()**

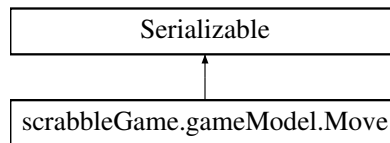
```
static void scrabbleGame.gameModel.MainTest.main (
    String[] args ) [static]
```

The documentation for this class was generated from the following file:

- gameModel/[MainTest.java](#)

## 6.9 scrabbleGame.gameModel.Move Class Reference

Inheritance diagram for scrabbleGame.gameModel.Move:



### Public Member Functions

- [Move](#) (List< [Placement](#) > plays, String word, int direction)
- String [getWord](#) ()
- int [getDirection](#) ()
- List< [Placement](#) > [getPlays](#) ()
- boolean [isBingo](#) ()
- int [getScore](#) ()
- void [setScore](#) (int score)
- boolean [includesBlank](#) ()
- ArrayList< Character > [getBlankLetter](#) ()
- void [addBlankLetter](#) (char blankLetter)
- String [toString](#) ()

### 6.9.1 Detailed Description

#### Square Class

This class represents a single square on the Scrabble board. A square can have different multipliers, represented using an enum. There are the relevant getters/setters for accessing the squares fields. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Evan Spendlove

#### Version

1.0.0

#### Since

21-02-2020

### 6.9.2 Constructor & Destructor Documentation

#### 6.9.2.1 Move()

```

scrabbleGame.gameModel.Move.Move (
    List< Placement > plays,
    String word,
    int direction )
  
```

Constructor which sets the score to 0 by default and sets bingo based on the number of tiles to be played.

## Parameters

<i>plays</i>	List of <a href="#">Tile</a> placements.
<i>word</i>	Word to be played on the board (including hook letter)
<i>direction</i>	Direction: 0 = horizontal, 1 = vertical

### 6.9.3 Member Function Documentation

#### 6.9.3.1 addBlankLetter()

```
void scrabbleGame.gameModel.Move.addBlankLetter (
    char blankLetter )
```

Setter for the character that replaced the blank.

## Parameters

<i>blankLetter</i>	Pass the character that replaced the blank tile.
--------------------	--

#### 6.9.3.2 getBlankLetter()

```
ArrayList<Character> scrabbleGame.gameModel.Move.getBlankLetter ( )
```

Getter for the character that replaced the blank.

## Returns

char Returns the character that replaced the blank.

#### 6.9.3.3 getDirection()

```
int scrabbleGame.gameModel.Move.getDirection ( )
```

Getter for the direction. 0 = horizontal, 1 = vertical.

## Returns

int Returns an integer indicating the direction in which the word is placed.



#### 6.9.3.4 getPlays()

```
List<Placement> scrabbleGame.gameModel.Move.getPlays ( )
```

Getter for the List of [Tile](#) Placements.

##### Returns

List Returns a list of [Tile](#) Placements.

#### 6.9.3.5 getScore()

```
int scrabbleGame.gameModel.Move.getScore ( )
```

Getter for accessing the score associated with this move.

##### Returns

int Returns the score associated with the move as an int.

#### 6.9.3.6 getWord()

```
String scrabbleGame.gameModel.Move.getWord ( )
```

Getter for the word

##### Returns

String Returns the word to be played on the board (including hook letter) as a String.

#### 6.9.3.7 includesBlank()

```
boolean scrabbleGame.gameModel.Move.includesBlank ( )
```

Getter for checking if the move includes a blank letter

##### Returns

boolean Returns true if the move contains a (previously) blank letter

#### 6.9.3.8 isBingo()

```
boolean scrabbleGame.gameModel.Move.isBingo ( )
```

Getter for checking if a move is to be awarded the bingo bonus.

##### Returns

boolean Returns a boolean indicating if the move is a bingo-move.

#### 6.9.3.9 setScore()

```
void scrabbleGame.gameModel.Move.setScore (
    int score )
```

Setter for the score associated with this move.

## Parameters

<i>score</i>	Pass the score (non-zero) that you wish to set.
--------------	---

### 6.9.3.10 toString()

```
String scrabbleGame.gameModel.Move.toString ( )
```

Method used for accessing a user-friendly String representation of this object.

## Returns

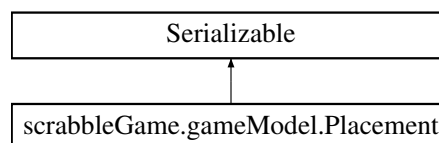
String Returns this object in a user-friendly string format.

The documentation for this class was generated from the following file:

- gameModel/[Move.java](#)

## 6.10 scrabbleGame.gameModel.Placement Class Reference

Inheritance diagram for scrabbleGame.gameModel.Placement:



### Public Member Functions

- [Placement](#) (int x, int y, char c)
- int [getX](#) ()
- void [setX](#) (int x)
- int [getY](#) ()
- void [setY](#) (int y)
- char [getLetter](#) ()
- void [setLetter](#) (char letter)
- String [toString](#) ()

### 6.10.1 Detailed Description

#### Placement Class

This class represents a single placement of a tile. It uses x and y coordinates to locate its placement on the board. It also stores the letter to be placed as a character.

Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Evan Spendlove

#### Version

1.0.0

#### Since

22-02-2020

### 6.10.2 Constructor & Destructor Documentation

#### 6.10.2.1 Placement()

```
scrabbleGame.gameModel.Placement.Placement (
    int x,
    int y,
    char c )
```

Constructor for the [Placement](#) class. Calls setters for all variables for proper input-verification.

#### Parameters

x	Pass the X coordinate you wish to set.
y	Pass the Y coordinate you wish to set.
c	Pass the letter to be placed.

### 6.10.3 Member Function Documentation

#### 6.10.3.1 getLetter()

```
char scrabbleGame.gameModel.Placement.getLetter ( )
```

Getter for the letter.

**Returns**

char Returns the letter to be placed as a character.

**6.10.3.2 getX()**

```
int scrabbleGame.gameModel.Placement.getX ( )
```

Getter for X coordinate.

**Returns**

int Returns the X coordinate as an int.

**6.10.3.3 getY()**

```
int scrabbleGame.gameModel.Placement.getY ( )
```

Getter for the Y coordinate.

**Returns**

int Returns the Y coordinate as an int.

**6.10.3.4 setLetter()**

```
void scrabbleGame.gameModel.Placement.setLetter (
    char letter )
```

Setter for the letter.

**Parameters**

<i>letter</i>	Pass the letter to be placed.
---------------	-------------------------------

**6.10.3.5 setX()**

```
void scrabbleGame.gameModel.Placement.setX (
    int x )
```

Setter for the X coordinate.

**Parameters**

<i>x</i>	Pass the X coordinate you wish to set.
----------	--

**6.10.3.6 setY()**

```
void scrabbleGame.gameModel.Placement.setY (
    int y )
```

Setter for the Y coordinate.

**Parameters**

<i>y</i>	Pass the Y coordinate you wish to set.
----------	--

**6.10.3.7 toString()**

```
String scrabbleGame.gameModel.Placement.toString ( )
```

This returns the desired String format that represents this object. This form is (X, Y, Letter).

**Returns**

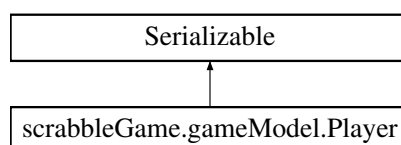
String Returns the desired String format of the object.

The documentation for this class was generated from the following file:

- [gameModel/Placement.java](#)

**6.11 scrabbleGame.gameModel.Player Class Reference**

Inheritance diagram for scrabbleGame.gameModel.Player:



## Public Member Functions

- [Player](#) (String username, int score, [Frame](#) frame)
- [Player](#) (String username, int score)
- [Player](#) (String username, [Frame](#) frame)
- [Player](#) (String username)
- String [getUsername](#) ()
- int [getScore](#) ()
- [Frame](#) [getFrame](#) ()
- void [setFrame](#) ([Frame](#) frame)
- void [setUsername](#) (String username)
- void [setScore](#) (int score)
- void [increaseScore](#) (int addition)
- void [resetPlayer](#) ()
- String [toString](#) ()
- String [dumpPlayerInfo](#) ()

### 6.11.1 Detailed Description

#### [Player](#) Class

This class represents the [Player](#) in Scrabble. The player has a username, a score and their frame (rack). The class has the relevant getters and setters, and a `reset()` method. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Reuben Mulligan

#### Version

1.0.0

#### Since

07-02-2020

### 6.11.2 Constructor & Destructor Documentation

#### 6.11.2.1 [Player\(\)](#) [1/4]

```
scrabbleGame.gameModel.Player.Player (
    String username,
    int score,
    Frame frame )
```

This is the full constructor that initialises the username, score and frame.

**Parameters**

<i>username</i>	Pass the username of the <a href="#">Player</a> as a String.
<i>score</i>	Pass the current score of the <a href="#">Player</a> as an int.
<i>frame</i>	Pass the frame of the <a href="#">Player</a> .

**6.11.2.2 Player() [2/4]**

```
scrabbleGame.gameModel.Player.Player (
    String username,
    int score )
```

This is a partial constructor that initialises the username, score of the [Player](#) and the frame to a new [Frame](#) object.

**Parameters**

<i>username</i>	Pass the username of the <a href="#">Player</a> as a String.
<i>score</i>	Pass the current score of the <a href="#">Player</a> as an int.

**6.11.2.3 Player() [3/4]**

```
scrabbleGame.gameModel.Player.Player (
    String username,
    Frame frame )
```

This is a partial constructor that initialises the username and frame of the [Player](#) and the score to 0.

**Parameters**

<i>username</i>	Pass the username of the <a href="#">Player</a> as a String.
<i>frame</i>	Pass the frame of the <a href="#">Player</a> .

**6.11.2.4 Player() [4/4]**

```
scrabbleGame.gameModel.Player.Player (
    String username )
```

This is a partial constructor that initialises the username of the [Player](#), the score to 0 and the frame to a new [Frame](#) object.

**Parameters**

<i>username</i>	Pass the username of the <a href="#">Player</a> as a String.
-----------------	--



### 6.11.3 Member Function Documentation

#### 6.11.3.1 dumpPlayerInfo()

```
String scrabbleGame.gameModel.Player.dumpPlayerInfo ( )
```

Method for dumping all of the information about the [Player](#) object as a String.

##### Returns

Returns a string containing the username, score and frame of the [Player](#).

#### 6.11.3.2 getFrame()

```
Frame scrabbleGame.gameModel.Player.getFrame ( )
```

Getter for private frame field.

##### Returns

[Frame](#) Returns the [Frame](#) object from the [Player](#) instance.

#### 6.11.3.3 getScore()

```
int scrabbleGame.gameModel.Player.getScore ( )
```

Getter for private score field.

##### Returns

int Returns the score of the [Player](#) in int format.

#### 6.11.3.4 getUsername()

```
String scrabbleGame.gameModel.Player.getUsername ( )
```

Getter for private username field.

##### Returns

String Returns the username of the [Player](#) in String format.

#### 6.11.3.5 increaseScore()

```
void scrabbleGame.gameModel.Player.increaseScore (
    int addition )
```

Method to increase the [Player](#)'s score by a certain amount.

## Parameters

<i>addition</i>	Pass the amount you want to add to the <a href="#">Player</a> 's current score.
-----------------	---

**6.11.3.6 resetPlayer()**

```
void scrabbleGame.gameModel.Player.resetPlayer ( )
```

Method to reset the entire [Player](#) object (username, score, frame).

**6.11.3.7 setFrame()**

```
void scrabbleGame.gameModel.Player.setFrame (
    Frame frame )
```

Setter for the private frame field.

## Parameters

<i>frame</i>	Pass the frame that you want to set.
--------------	--------------------------------------

**6.11.3.8 setScore()**

```
void scrabbleGame.gameModel.Player.setScore (
    int score )
```

Setter for the private score field with error checking.

## Parameters

<i>score</i>	Pass the score (in int format) that you want to set.
--------------	--

**6.11.3.9 setUsername()**

```
void scrabbleGame.gameModel.Player.setUsername (
    String username )
```

Setter for the private username field with error checking.

## Parameters

<i>username</i>	Pass the username (in String format) that you want to set.
-----------------	--

### 6.11.3.10 toString()

```
String scrabbleGame.gameModel.Player.toString ( )
```

This method overrides the default String method of the Object class.

#### Returns

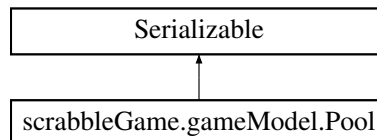
Returns a String containing the username and score in a formatted manner.

The documentation for this class was generated from the following file:

- gameModel/[Player.java](#)

## 6.12 scrabbleGame.gameModel.Pool Class Reference

Inheritance diagram for scrabbleGame.gameModel.Pool:



### Public Member Functions

- void [addTile](#) (Tile t)
- [Pool](#) ()
- int [size](#) ()
- boolean [isEmpty](#) ()
- void [reset](#) ()
- [Tile](#) [draw](#) ()
- int [getValue](#) (char c)
- String [toString](#) ()

### 6.12.1 Detailed Description

#### [Pool](#) Class

This class represents the bag of tiles (called the pool) in Scrabble. The pool contains 100 tiles, each a letter in the chosen alphabet. For our implementation, we are using the 26-letter english alphabet, with two additional blank tiles. The pool can be reset and you can draw tiles from the pool. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Cal Nolan

#### Version

1.0

#### Since

07-02-2020

## 6.12.2 Constructor & Destructor Documentation

### 6.12.2.1 Pool()

```
scrabbleGame.gameModel.Pool.Pool ( )
```

This is the constructor for the [Pool](#) class. The constructor initialises the pool field and calls the resetPool() method.

## 6.12.3 Member Function Documentation

### 6.12.3.1 addTile()

```
void scrabbleGame.gameModel.Pool.addTile (
    Tile t )
```

Public method for adding a tile to the pool.

#### Parameters

<i>t</i>	Takes a tile, t, as input and adds it to the pool.
----------	--

### 6.12.3.2 draw()

```
Tile scrabbleGame.gameModel.Pool.draw ( )
```

This method removes a randomly chosen tile from the pool and returns it.

#### Returns

[Tile](#) Returns the randomly chosen tile.

### 6.12.3.3 getValue()

```
int scrabbleGame.gameModel.Pool.getValue (
    char c )
```

This method allows users to check the value of a tile by passing the character.

**Parameters**

<b>c</b>	The character for which you want to get the value (worth) of the tile.
----------	--

**Returns**

int This returns the value of the [Tile](#) associated with this character.

**6.12.3.4 isEmpty()**

```
boolean scrabbleGame.gameModel.Pool.isEmpty ( )
```

This method is used to test if the pool contains any tiles.

**Returns**

boolean This returns true if the pool is empty, else it returns false.

**6.12.3.5 reset()**

```
void scrabbleGame.gameModel.Pool.reset ( )
```

This method is used to reset the pool to its original state, containing all tiles.

**6.12.3.6 size()**

```
int scrabbleGame.gameModel.Pool.size ( )
```

This method is used to get the current size of the pool (i.e. the remaining tiles).

**Returns**

int This returns the size of the pool field.

**6.12.3.7 toString()**

```
String scrabbleGame.gameModel.Pool.toString ( )
```

This method overrides the default String method of the Object class.

**Returns**

String Returns the String format of the pool ArrayList;

The documentation for this class was generated from the following file:

- [gameModel/Pool.java](#)

## 6.13 scrabbleGame.gameEngine.Scrabble Class Reference

### Static Public Member Functions

- static void [main](#) (String[] args)

#### 6.13.1 Detailed Description

##### Scrabble Class

This class calls the main method of [UI](#). This is necessary for the JAR file to properly launch the JavaFX application.  
Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

##### Author

Reuben Mulligan

##### Version

1.0.0

##### Since

25-03-2020

#### 6.13.2 Member Function Documentation

##### 6.13.2.1 main()

```
static void scrabbleGame.gameEngine.Scrabble.main (  
    String[] args ) [static]
```

Main method to launch the JavaFX appplication.

##### Parameters

<i>args</i>	Pass any arguments to be passed to the JavaFX start() method.
-------------	---

The documentation for this class was generated from the following file:

- gameEngine/[Scrabble.java](#)

## 6.14 scrabbleGame.gameEngine.ScrabbleEngineController Class Reference

### Public Member Functions

- void [switchPlayer](#) ()
- void [switchPlayerDelay](#) ()
- void [updateUsername](#) (int player, String username)
- void [updateScore](#) ()
- int [scoring](#) (Move m)
- int [finalScore](#) (Frame f)
- int [getCurrentPlayerNum](#) ()
- [Frame](#) [getCurrentFrame](#) ()
- [Board](#) [getBoard](#) ()
- [Pool](#) [getPool](#) ()
- [Player](#) [getPlayer](#) (int playerNum)
- [Player](#) [getPlayer1](#) ()
- [Player](#) [getPlayer2](#) ()
- void [incrementCurrentPlayerNum](#) ()
- void [incrementTurnCounter](#) ()
- int [getTurnCounter](#) ()
- [Lexicon](#) [getDictionary](#) ()
- void [setDictionary](#) ([Lexicon](#) dictionary)

### Public Attributes

- [FrameController](#) [currentFrameController](#)
- [ConsoleController](#) [consoleController](#)
- [BoardController](#) [boardController](#)
- [TextArea](#) [switchPlayerPrompt](#)

### Static Public Attributes

- static final boolean [USING\\_THEMED\\_BOARD](#) = false

#### 6.14.1 Detailed Description

#### [ScrabbleEngineController](#) Class

This class is the Main [Scrabble](#) Engine Controller. This class contains all of the game controls and runs the game. We utilised a multi controller backend to properly integrate our existing java classes into JavaFX. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Cal Nolan, Reuben Mulligan, Evan Spendlove

#### Version

1.0.0

#### Since

18-03-2020

## 6.14.2 Member Function Documentation

### 6.14.2.1 finalScore()

```
int scrabbleGame.gameEngine.ScrabbleEngineController.finalScore (
    Frame f )
```

Method to calculate value of tiles in a frame at the end of a game.

#### Parameters

<i>f</i>	Pass the frame for which the final deduction is to be calculated.
----------	---

#### Returns

Total score to be deducted.

### 6.14.2.2 getBoard()

```
Board scrabbleGame.gameEngine.ScrabbleEngineController.getBoard ( )
```

Getter for board object

#### Returns

board

### 6.14.2.3 getCurrentFrame()

```
Frame scrabbleGame.gameEngine.ScrabbleEngineController.getCurrentFrame ( )
```

Getter for current Frame

#### Returns

currentFrame



#### 6.14.2.4 getCurrentPlayerNum()

```
int scrabbleGame.gameEngine.ScrabbleEngineController.getCurrentPlayerNum ( )
```

Getter for current player number.

##### Returns

currentPlayerNum

#### 6.14.2.5 getDictionary()

```
Lexicon scrabbleGame.gameEngine.ScrabbleEngineController.getDictionary ( )
```

Getter for Dictionary

##### Returns

Lexicon Returns the dictionary.

#### 6.14.2.6 getPlayer()

```
Player scrabbleGame.gameEngine.ScrabbleEngineController.getPlayer (
    int playerNum )
```

Get player by their number (1 or 2).

##### Parameters

<i>playerNum</i>	
------------------	--

##### Returns

player

#### 6.14.2.7 getPlayer1()

```
Player scrabbleGame.gameEngine.ScrabbleEngineController.getPlayer1 ( )
```

Getter for Player 1

##### Returns

player1

#### 6.14.2.8 getPlayer2()

```
Player scrabbleGame.gameEngine.ScrabbleEngineController.getPlayer2 ( )
```

Getter for Player 1

Returns

player2

#### 6.14.2.9 getPool()

```
Pool scrabbleGame.gameEngine.ScrabbleEngineController.getPool ( )
```

Getter for Pool object.

Returns

pool

#### 6.14.2.10 getTurnCounter()

```
int scrabbleGame.gameEngine.ScrabbleEngineController.getTurnCounter ( )
```

Getter for turn counter.

Returns

turnCounter

#### 6.14.2.11 incrementCurrentPlayerNum()

```
void scrabbleGame.gameEngine.ScrabbleEngineController.incrementCurrentPlayerNum ( )
```

Switches the player number

Author

Evan Spendlove

#### 6.14.2.12 incrementTurnCounter()

```
void scrabbleGame.gameEngine.ScrabbleEngineController.incrementTurnCounter ( )
```

Increases the turn counter

#### 6.14.2.13 scoring()

```
int scrabbleGame.gameEngine.ScrabbleEngineController.scoring (
    Move m )
```

Method to call other scoring methods.

**Parameters**

<i>m</i>	Pass the move to be scored.
----------	-----------------------------

**Returns**

total score of played move.

**6.14.2.14 setDictionary()**

```
void scrabbleGame.gameEngine.ScrabbleEngineController.setDictionary (
    Lexicon dictionary )
```

Setter for the dictionary.

**Parameters**

<i>dictionary</i>	Pass the dictionary to be set.
-------------------	--------------------------------

**6.14.2.15 switchPlayer()**

```
void scrabbleGame.gameEngine.ScrabbleEngineController.switchPlayer ( )
```

This method switches the players, it is a nested method of switchPlayerDelay It switches the instance variables around, refills the player frame if its not the start of the game. It then updates the frame on the board and prints a message

**Author**

Evan Spendlove

**6.14.2.16 switchPlayerDelay()**

```
void scrabbleGame.gameEngine.ScrabbleEngineController.switchPlayerDelay ( )
```

This method implements a delay between player switches as to avoid cheating and stop players from seeing their opponents racks. @uses Timer Uses timer to add a delay between turns. Adds a countdown on screen and switches the players after a set time.

**Author**

Evan Spendlove

#### 6.14.2.17 updateScore()

```
void scrabbleGame.gameEngine.ScrabbleEngineController.updateScore ( )
```

Method to update the graphical representation of the score displayed on the game window.

##### Author

Evan Spendlove

#### 6.14.2.18 setUsername()

```
void scrabbleGame.gameEngine.ScrabbleEngineController.setUsername (
    int player,
    String username )
```

Method to update the username of a Player both in the Player object and on the board.

##### Parameters

<i>player</i>	Pass the player number to be updated.
<i>username</i>	Pass the desired username to be set.

##### Author

Evan Spendlove

### 6.14.3 Member Data Documentation

#### 6.14.3.1 boardController

```
BoardController scrabbleGame.gameEngine.ScrabbleEngineController.boardController
```

Holds the Board controller

#### 6.14.3.2 consoleController

```
ConsoleController scrabbleGame.gameEngine.ScrabbleEngineController.consoleController
```

Holds the console controller

### 6.14.3.3 currentFrameController

```
FrameController scrabbleGame.gameEngine.ScrabbleEngineController.currentFrameController
```

Holds the Frame controller

### 6.14.3.4 switchPlayerPrompt

```
TextArea scrabbleGame.gameEngine.ScrabbleEngineController.switchPlayerPrompt
```

Holds the switchPlayerPrompt Text area

### 6.14.3.5 USING\_THEMED\_BOARD

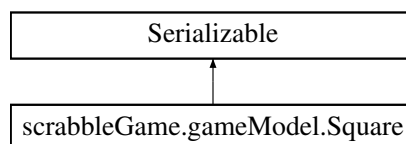
```
final boolean scrabbleGame.gameEngine.ScrabbleEngineController.USING_THEMED_BOARD = false
[static]
```

The documentation for this class was generated from the following file:

- gameEngine/[ScrabbleEngineController.java](#)

## 6.15 scrabbleGame.gameModel.Square Class Reference

Inheritance diagram for scrabbleGame.gameModel.Square:



### Classes

- enum [squareType](#)

### Public Member Functions

- [squareType](#) [getType](#) ()
- void [setType](#) ([squareType](#) t)
- boolean [isOccupied](#) ()
- [Tile](#) [getTile](#) ()
- void [setTile](#) ([Tile](#) tile) throws [IllegalStateException](#)
- void [clearTile](#) () throws [IllegalStateException](#)
- [Square](#) ()
- String [toString](#) ()

### 6.15.1 Detailed Description

#### Square Class

This class represents a single square on the Scrabble board. A square can have different multipliers, represented using an enum. There are the relevant getters/setters for accessing the squares fields. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

##### Author

Evan Spendlove

##### Version

1.0.0

##### Since

21-02-2020

### 6.15.2 Constructor & Destructor Documentation

#### 6.15.2.1 Square()

```
scrabbleGame.gameModel.Square.Square ( )
```

Constructor for the [Square](#) object. The occupied field is false by default, and it is a regular square (no multiplier, not a star) by default.

### 6.15.3 Member Function Documentation

#### 6.15.3.1 clearTile()

```
void scrabbleGame.gameModel.Square.clearTile ( ) throws IllegalStateException
```

Clears the tile from the square.

##### Exceptions

<i>IllegalStateException</i>	Cannot remove a tile from a square without a tile.
------------------------------	--

### 6.15.3.2 `getTile()`

```
Tile scrabbleGame.gameModel.Square.getTile ( )
```

Getter for the tile currently on the square.

#### Returns

[Tile](#) Returns the tile currently on the square, or null if no tile on the square.

### 6.15.3.3 `getType()`

```
squareType scrabbleGame.gameModel.Square.getType ( )
```

Getter for the square type

#### Returns

[squareType](#) Returns the enum value for the square.

### 6.15.3.4 `isOccupied()`

```
boolean scrabbleGame.gameModel.Square.isOccupied ( )
```

Getter for checking if the square currently has a tile on it.

#### Returns

`boolean` Returns true if there is a currently a tile on this square.

### 6.15.3.5 `setTile()`

```
void scrabbleGame.gameModel.Square.setTile (
    Tile tile ) throws IllegalStateException
```

Setter for the [Tile](#) object.

#### Parameters

<i>tile</i>	Pass the tile which you wish to place on the square.
-------------	--

## Exceptions

<i>IllegalStateException</i>	Throws an exception if there is already a tile on the square.
------------------------------	---

**6.15.3.6 setType()**

```
void scrabbleGame.gameModel.Square.setType (
    squareType t )
```

Setter for the square type

## Parameters

<i>t</i>	Pass the type that you want to set for the square.
----------	--

**6.15.3.7 toString()**

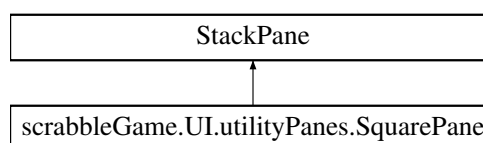
```
String scrabbleGame.gameModel.Square.toString ( )
```

The documentation for this class was generated from the following file:

- [gameModel/Square.java](#)

**6.16 scrabbleGame.UI.utilityPanes.SquarePane Class Reference**

Inheritance diagram for scrabbleGame.UI.utilityPanes.SquarePane:

**Public Member Functions**

- [SquarePane \(\)](#)
- [SquarePane \(Square input\)](#)
- [Square getSquare \(\)](#)
- [TilePane getTilePane \(\)](#)
- void [updateSquare \(Square newSquare\)](#)
- void [updateSquare \(Square newSquare, String message\)](#)
- void [addTile \(TilePane t\)](#)
- [TilePane removeTile \(\)](#)
- String [toString \(\)](#)



### 6.16.1 Detailed Description

#### SquarePane Class

This JavaFX class represented the squares on the board.

As such, it contains the square and can have a tile played on it.

Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

##### Author

Evan Spendlove

##### Version

1.0.0

##### Since

26-03-2020

### 6.16.2 Constructor & Destructor Documentation

#### 6.16.2.1 SquarePane() [1/2]

```
scrabbleGame.UI.utilityPanes.SquarePane.SquarePane ( )
```

Empty Constructor

#### 6.16.2.2 SquarePane() [2/2]

```
scrabbleGame.UI.utilityPanes.SquarePane.SquarePane (
    Square input )
```

Partial Constructor

##### Parameters

<i>input</i>	Pass the Square to be set on this pane.
--------------	---

### 6.16.3 Member Function Documentation

### 6.16.3.1 addTile()

```
void scrabbleGame.UI.utilityPanes.SquarePane.addTile (
    TilePane t )
```

Method for adding a tile (tilePane) onto a square.

#### Parameters

<i>t</i>	Pass the tilePane to be added to the square.
----------	--

### 6.16.3.2 getSquare()

```
Square scrabbleGame.UI.utilityPanes.SquarePane.getSquare ( )
```

Getter for Square

#### Returns

[Square](#) Returns the square.

### 6.16.3.3 getTilePane()

```
TilePane scrabbleGame.UI.utilityPanes.SquarePane.getTilePane ( )
```

Getter for [TilePane](#)

#### Returns

[TilePane](#) Returns the tilePane object

### 6.16.3.4 removeTile()

```
TilePane scrabbleGame.UI.utilityPanes.SquarePane.removeTile ( )
```

Method for removing a tile from a square.

#### Returns

[TilePane](#) Returns the removed [TilePane](#) from the square.

### 6.16.3.5 toString()

```
String scrabbleGame.UI.utilityPanes.SquarePane.toString ( )
```

Method for getting a string representation of the object.

#### Returns

String Returns the string representation of the object.

### 6.16.3.6 updateSquare() [1/2]

```
void scrabbleGame.UI.utilityPanes.SquarePane.updateSquare (
    Square newSquare )
```

Setter for the square which updates its graphical representation.

#### Parameters

<i>newSquare</i>	Pass the square to be set.
------------------	----------------------------

### 6.16.3.7 updateSquare() [2/2]

```
void scrabbleGame.UI.utilityPanes.SquarePane.updateSquare (
    Square newSquare,
    String message )
```

Setter for the square which updates its graphical representation.

#### Parameters

<i>newSquare</i>	Pass the square to be set.
------------------	----------------------------

The documentation for this class was generated from the following file:

- UI/utilityPanes/[SquarePane.java](#)

## 6.17 scrabbleGame.gameModel.Square.squareType Enum Reference

### Public Attributes

- [STAR](#)
- [REGULAR](#)

- [DB\\_LETTER](#)
- [DB\\_WORD](#)
- [TR\\_LETTER](#)
- [TR\\_WORD](#)

### 6.17.1 Detailed Description

Enum for storing the type of square. There is only one star at the centre of the board. The other types are multipliers for letters or words.

### 6.17.2 Member Data Documentation

#### 6.17.2.1 DB\_LETTER

```
scrabbleGame.gameModel.Square.squareType.DB_LETTER
```

#### 6.17.2.2 DB\_WORD

```
scrabbleGame.gameModel.Square.squareType.DB_WORD
```

#### 6.17.2.3 REGULAR

```
scrabbleGame.gameModel.Square.squareType.REGULAR
```

#### 6.17.2.4 STAR

```
scrabbleGame.gameModel.Square.squareType.STAR
```

#### 6.17.2.5 TR\_LETTER

```
scrabbleGame.gameModel.Square.squareType.TR_LETTER
```

### 6.17.2.6 TR\_WORD

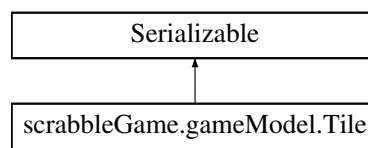
`scrabbleGame.gameModel.Square.squareType.TR_WORD`

The documentation for this enum was generated from the following file:

- [gameModel/Square.java](#)

## 6.18 scrabbleGame.gameModel.Tile Enum Reference

Inheritance diagram for `scrabbleGame.gameModel.Tile`:



### Public Member Functions

- [Tile](#) (char c, int value)
- char [character](#) ()
- int [value](#) ()
- String [toString](#) ()

### Static Public Member Functions

- static [Tile getInstance](#) (char c)
- static int [getValue](#) (char c)
- static int [getValue](#) (String letter)

### Public Attributes

- [BLANK](#) = ('#', 0)
- [A](#) = ('A', 1)
- [B](#) = ('B', 3)
- [C](#) = ('C', 3)
- [D](#) = ('D', 2)
- [E](#) = ('E', 1)
- [F](#) = ('F', 4)
- [G](#) = ('G', 2)
- [H](#) = ('H', 4)
- [I](#) = ('I', 1)
- [J](#) = ('J', 8)
- [K](#) = ('K', 5)
- [L](#) = ('L', 1)
- [M](#) = ('M', 3)
- [N](#) = ('N', 1)

- **O** =('O', 1)
- **P** =('P', 3)
- **Q** =('Q', 10)
- **R** =('R', 1)
- **S** =('S', 1)
- **T** =('T', 1)
- **U** =('U', 1)
- **V** =('V', 4)
- **W** =('W', 4)
- **X** =('X', 8)
- **Y** =('Y', 4)
- **Z** =('Z', 10)

### 6.18.1 Detailed Description

#### Tile Class

This represents a tile in Scrabble, which has an associated character and value.

Team: JunkBot

- Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Evan Spendlove

#### Version

1.0.0

#### Since

07-02-2020

### 6.18.2 Constructor & Destructor Documentation

#### 6.18.2.1 Tile()

```
scrabbleGame.gameModel.Tile.Tile (
    char c,
    int value )
```

Default constructor for an enum class.

#### Parameters

<i>c</i>	takes a character as input for the constructor
<i>value</i>	takes a value as input for the constructor

## 6.18.3 Member Function Documentation

### 6.18.3.1 character()

```
char scrabbleGame.gameModel.Tile.character ( )
```

This accessor allows access to the character field of the current [Tile](#) instance.

#### Returns

char this returns the character field of this current [Tile](#) instance

### 6.18.3.2 getInstance()

```
static Tile scrabbleGame.gameModel.Tile.getInstance (
    char c ) [static]
```

This method returns and instance of the [Tile](#) class for the character passed

#### Parameters

c	the letter for which you want an instance of <a href="#">Tile</a>
---	---

#### Returns

[Tile](#) This returns an instance of the [Tile](#) class for the character passed.

### 6.18.3.3 getValue() [1/2]

```
static int scrabbleGame.gameModel.Tile.getValue (
    char c ) [static]
```

This method returns the value associated with the character passed as per the enum.

#### Parameters

c	pass a character for which you want the associated value.
---	---

#### Returns

int Returns the value associated with the character passed.

#### 6.18.3.4 `getValue()` [2/2]

```
static int scrabbleGame.gameModel.Tile.getValue (
    String letter ) [static]
```

This method returns the value associated with the String passed as per the enum.

##### Parameters

<i>letter</i>	pass a String for which you want the associated value.
---------------	--

##### Returns

int Returns the value associated with the String passed.

#### 6.18.3.5 `toString()`

```
String scrabbleGame.gameModel.Tile.toString ( )
```

This method overrides the [toString\(\)](#) method of object for a custom String return value.

##### Returns

String Returns only the character of the current [Tile](#) instance

#### 6.18.3.6 `value()`

```
int scrabbleGame.gameModel.Tile.value ( )
```

This accessor allows access to the value field of the current [Tile](#) instance.

##### Returns

int this returns the value field of this current [Tile](#) instance

### 6.18.4 Member Data Documentation

#### 6.18.4.1 **A**

```
scrabbleGame.gameModel.Tile.A = ('A', 1)
```



#### 6.18.4.2 B

```
scrabbleGame.gameModel.Tile.B = ('B', 3)
```

#### 6.18.4.3 BLANK

```
scrabbleGame.gameModel.Tile.BLANK = ('#', 0)
```

#### 6.18.4.4 C

```
scrabbleGame.gameModel.Tile.C = ('C', 3)
```

#### 6.18.4.5 D

```
scrabbleGame.gameModel.Tile.D = ('D', 2)
```

#### 6.18.4.6 E

```
scrabbleGame.gameModel.Tile.E = ('E', 1)
```

#### 6.18.4.7 F

```
scrabbleGame.gameModel.Tile.F = ('F', 4)
```

#### 6.18.4.8 G

```
scrabbleGame.gameModel.Tile.G = ('G', 2)
```

#### 6.18.4.9 H

```
scrabbleGame.gameModel.Tile.H = ('H', 4)
```

**6.18.4.10 I**

```
scrabbleGame.gameModel.Tile.I = ('I', 1)
```

**6.18.4.11 J**

```
scrabbleGame.gameModel.Tile.J = ('J', 8)
```

**6.18.4.12 K**

```
scrabbleGame.gameModel.Tile.K = ('K', 5)
```

**6.18.4.13 L**

```
scrabbleGame.gameModel.Tile.L = ('L', 1)
```

**6.18.4.14 M**

```
scrabbleGame.gameModel.Tile.M = ('M', 3)
```

**6.18.4.15 N**

```
scrabbleGame.gameModel.Tile.N = ('N', 1)
```

**6.18.4.16 O**

```
scrabbleGame.gameModel.Tile.O = ('O', 1)
```

**6.18.4.17 P**

```
scrabbleGame.gameModel.Tile.P = ('P', 3)
```

**6.18.4.18 Q**

```
scrabbleGame.gameModel.Tile.Q = ('Q', 10)
```

**6.18.4.19 R**

```
scrabbleGame.gameModel.Tile.R = ('R', 1)
```

**6.18.4.20 S**

```
scrabbleGame.gameModel.Tile.S = ('S', 1)
```

**6.18.4.21 T**

```
scrabbleGame.gameModel.Tile.T = ('T', 1)
```

**6.18.4.22 U**

```
scrabbleGame.gameModel.Tile.U = ('U', 1)
```

**6.18.4.23 V**

```
scrabbleGame.gameModel.Tile.V = ('V', 4)
```

**6.18.4.24 W**

```
scrabbleGame.gameModel.Tile.W = ('W', 4)
```

**6.18.4.25 X**

```
scrabbleGame.gameModel.Tile.X = ('X', 8)
```

#### 6.18.4.26 Y

```
scrabbleGame.gameModel.Tile.Y = ('Y', 4)
```

#### 6.18.4.27 Z

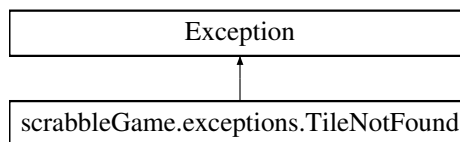
```
scrabbleGame.gameModel.Tile.Z = ('Z', 10)
```

The documentation for this enum was generated from the following file:

- [gameModel/Tile.java](#)

## 6.19 scrabbleGame.exceptions.TileNotFound Class Reference

Inheritance diagram for scrabbleGame.exceptions.TileNotFound:



### Public Member Functions

- [TileNotFound](#) (String message)

#### 6.19.1 Detailed Description

##### [TileNotFound](#) Exception Class

This exception is used when a method tries to access a tile that is not found where expected. E.g. accessing a tile from the board using invalid coordinates. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Evan Spendlove

#### Version

1.0.0

#### Since

20-03-2020

## 6.19.2 Constructor & Destructor Documentation

### 6.19.2.1 TileNotFound()

```
scrabbleGame.exceptions.TileNotFound.TileNotFound (
    String message )
```

Constructor for [TileNotFound](#)

**Parameters**

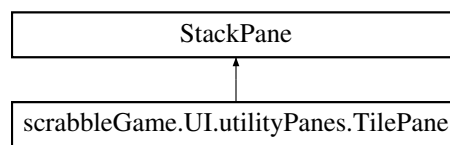
<i>message</i>	Pass the message for the exception to throw
----------------	---

The documentation for this class was generated from the following file:

- exceptions/[TileNotFound.java](#)

## 6.20 scrabbleGame.UI.utilityPanes.TilePane Class Reference

Inheritance diagram for scrabbleGame.UI.utilityPanes.TilePane:



### Public Member Functions

- [TilePane](#) ()
- [TilePane](#) ([Tile](#) input)
- [Tile](#) [getTile](#) ()
- void [setTile](#) ([Tile](#) tile)
- void [updateTile](#) ([Tile](#) newTile)
- String [toString](#) ()

### 6.20.1 Detailed Description

#### [TilePane](#) Class

This class represents the Tile object in JavaFX form. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

**Author**

Evan Spendlove

**Version**

1.0.0

**Since**

26-03-2020

## 6.20.2 Constructor & Destructor Documentation

### 6.20.2.1 TilePane() [1/2]

```
scrabbleGame.UI.utilityPanels.TilePane.TilePane ( )
```

Empty Constructor

### 6.20.2.2 TilePane() [2/2]

```
scrabbleGame.UI.utilityPanels.TilePane.TilePane (
    Tile input )
```

Partial Constructor

Parameters

<i>input</i>	Pass the tile to be set.
--------------	--------------------------

## 6.20.3 Member Function Documentation

### 6.20.3.1 getTile()

```
Tile scrabbleGame.UI.utilityPanels.TilePane.getTile ( )
```

Getter for Tile object

Returns

[Tile](#) Returns the tile object

### 6.20.3.2 setTile()

```
void scrabbleGame.UI.utilityPanels.TilePane.setTile (
    Tile tile )
```

Setter for Tile object

Parameters

<i>tile</i>	Pass the tile to be set.
-------------	--------------------------

### 6.20.3.3 toString()

```
String scrabbleGame.UI.utilityPanes.TilePane.toString ( )
```

Method for getting a string representation of the [TilePane](#).

#### Returns

String Returns the string representation of the [TilePane](#).

### 6.20.3.4 updateTile()

```
void scrabbleGame.UI.utilityPanes.TilePane.updateTile (
    Tile newTile )
```

Method for updating the tile object and its graphical representation.

#### Parameters

<i>newTile</i>	
----------------	--

The documentation for this class was generated from the following file:

- UI/utilityPanes/[TilePane.java](#)

## 6.21 scrabbleGame.UI.components.Timer Class Reference

### Public Member Functions

- [Timer](#) ()

### Static Public Member Functions

- static void [run](#) ([ScrabbleEngineController](#) engine, int time, TextArea displayArea, String message)
- static void [endGame](#) ([ScrabbleEngineController](#) engine, int time, TextArea displayArea, String message)



## 6.21.1 Detailed Description

### Timer Class

This class is a timer which is used for delaying the screen between player changes. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Evan Spendlove

#### Version

1.0.0

#### Since

26-03-2020

## 6.21.2 Constructor & Destructor Documentation

### 6.21.2.1 Timer()

```
scrabbleGame.UI.components.Timer.Timer ( )
```

## 6.21.3 Member Function Documentation

### 6.21.3.1 endGame()

```
static void scrabbleGame.UI.components.Timer.endGame (
    ScrabbleEngineController engine,
    int time,
    TextArea displayArea,
    String message ) [static]
```

Method to run the timer for the chosen period of time and update the textarea. Used for ending the game - so calls System.exit(0) at end.

#### Parameters

<i>engine</i>	Pass the current instance of the engine controller.
<i>time</i>	Pass the number of seconds to wait for.
<i>displayArea</i>	Pass the TextArea to be updated with the wait message.
<i>message</i>	Pass the message to be displayed.

### 6.21.3.2 run()

```
static void scrabbleGame.UI.components.Timer.run (
    ScrabbleEngineController engine,
    int time,
    TextArea displayArea,
    String message ) [static]
```

Method to run the timer for the chosen period of time and update the textarea.

#### Parameters

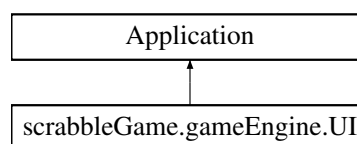
<i>engine</i>	Pass the current instance of the engine controller.
<i>time</i>	Pass the number of seconds to wait for.
<i>displayArea</i>	Pass the TextArea to be updated with the wait message.
<i>message</i>	Pass the message to be displayed.

The documentation for this class was generated from the following file:

- UI/components/[Timer.java](#)

## 6.22 scrabbleGame.gameEngine.UI Class Reference

Inheritance diagram for scrabbleGame.gameEngine.UI:



### Public Member Functions

- void [start](#) (Stage primaryStage) throws Exception

### Static Public Member Functions

- static void [main](#) (String[] args)

## 6.22.1 Detailed Description

### UI Class

This class extends Application to launch the JavaFX application. Team: JunkBot Members: Reuben Mulligan (18733589), Evan Spendlove (18492656), Cal Nolan(18355103)

#### Author

Evan Spendlove

#### Version

1.0.0

#### Since

25-03-2020

## 6.22.2 Member Function Documentation

### 6.22.2.1 main()

```
static void scrabbleGame.gameEngine.UI.main (  
    String[] args ) [static]
```

Main method to launch the JavaFX application.

#### Parameters

<i>args</i>	Pass any arguments to be handled inside the start of the JavaFX application.
-------------	--

### 6.22.2.2 start()

```
void scrabbleGame.gameEngine.UI.start (  
    Stage primaryStage ) throws Exception
```

The start method for the JavaFX application - automatically called by launch().

#### Parameters

<i>primaryStage</i>	Pass the stage to be set (automatically done by launch());
---------------------	--

**Exceptions**

<i>Exception</i>	Throws an IOException if the FXML file cannot be loaded.
------------------	--

The documentation for this class was generated from the following file:

- gameEngine/[UI.java](#)

## Chapter 7

# File Documentation

### 7.1 exceptions/TileNotFound.java File Reference

#### Classes

- class [scrabbleGame.exceptions.TileNotFound](#)

#### Packages

- package [scrabbleGame.exceptions](#)

### 7.2 gameEngine/Scrabble.java File Reference

#### Classes

- class [scrabbleGame.gameEngine.Scrabble](#)

#### Packages

- package [scrabbleGame.gameEngine](#)

### 7.3 gameEngine/ScrabbleEngineController.java File Reference

#### Classes

- class [scrabbleGame.gameEngine.ScrabbleEngineController](#)

#### Packages

- package [scrabbleGame.gameEngine](#)

## 7.4 gameEngine/UI.java File Reference

### Classes

- class [scrabbleGame.gameEngine.UI](#)

### Packages

- package [scrabbleGame.gameEngine](#)

## 7.5 gameModel/Board.java File Reference

### Classes

- class [scrabbleGame.gameModel.Board](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.6 gameModel/Frame.java File Reference

### Classes

- class [scrabbleGame.gameModel.Frame](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.7 gameModel/Lexicon.java File Reference

### Classes

- class [scrabbleGame.gameModel.Lexicon](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.8 gameModel/MainTest.java File Reference

### Classes

- class [scrabbleGame.gameModel.MainTest](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.9 gameModel/Move.java File Reference

### Classes

- class [scrabbleGame.gameModel.Move](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.10 gameModel/Placement.java File Reference

### Classes

- class [scrabbleGame.gameModel.Placement](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.11 gameModel/Player.java File Reference

### Classes

- class [scrabbleGame.gameModel.Player](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.12 gameModel/Pool.java File Reference

### Classes

- class [scrabbleGame.gameModel.Pool](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.13 gameModel/Square.java File Reference

### Classes

- class [scrabbleGame.gameModel.Square](#)
- enum [scrabbleGame.gameModel.Square.squareType](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.14 gameModel/Tile.java File Reference

### Classes

- enum [scrabbleGame.gameModel.Tile](#)

### Packages

- package [scrabbleGame.gameModel](#)

## 7.15 UI/components/BoardController.java File Reference

### Classes

- class [scrabbleGame.UI.components.BoardController](#)

### Packages

- package [scrabbleGame.UI.components](#)



## 7.16 UI/components/ConsoleController.java File Reference

### Classes

- class [scrabbleGame.UI.components.ConsoleController](#)

### Packages

- package [scrabbleGame.UI.components](#)

## 7.17 UI/components/FrameController.java File Reference

### Classes

- class [scrabbleGame.UI.components.FrameController](#)

### Packages

- package [scrabbleGame.UI.components](#)

## 7.18 UI/components/Timer.java File Reference

### Classes

- class [scrabbleGame.UI.components.Timer](#)

### Packages

- package [scrabbleGame.UI.components](#)

## 7.19 UI/utilityPanes/ImageViewPane.java File Reference

### Classes

- class [scrabbleGame.UI.utilityPanes.ImageViewPane](#)

### Packages

- package [scrabbleGame.UI.utilityPanes](#)

## 7.20 UI/utilityPanes/SquarePane.java File Reference

### Classes

- class [scrabbleGame.UI.utilityPanes.SquarePane](#)

### Packages

- package [scrabbleGame.UI.utilityPanes](#)

## 7.21 UI/utilityPanes/TilePane.java File Reference

### Classes

- class [scrabbleGame.UI.utilityPanes.TilePane](#)

### Packages

- package [scrabbleGame.UI.utilityPanes](#)

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