ToldiChess

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

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

Chapter 2

Class Index

2.1 Class List

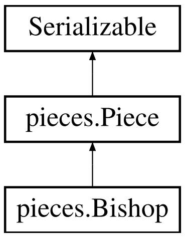
Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 3

Class Documentation

3.1 pieces.Bishop Class Reference

Inheritance diagram for pieces.Bishop:



Public Member Functions

- **Bishop** (Team color)
- boolean validMove (Pos from, Pos to, Fen fen)

Additional Inherited Members

3.1.1 Detailed Description

Classic chess Bishop.

3.1.2 Member Function Documentation

3.1.2.1 validMove()

```
boolean pieces.Bishop.validMove (
            Pos from,
            Pos to,
            Fen fen )
```

Abstract move validator. Each piece has a different move-set so its implemented differently.

Parameters

from	From position.
to	To positon.
fen	The tiles.

Returns

True if the move is in the pieces move-set.

Reimplemented from pieces.Piece.

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

- src/pieces/Bishop.java

3.2 game.Board Class Reference

Public Member Functions

- Board ()
- Board (String fen)
- Board (Board b)
- boolean validMove (Pos from, Pos to)
- boolean validMove (Pos from, Pos to, boolean checkcheck, Team asTeam)
- int castling (Pos from, Pos to)
- void executeMove (Pos from, Pos to)
- boolean inCheck (Team color)
- boolean isStalemate ()
- boolean isMate ()
- Fen getFen ()

3.2.1 Detailed Description

Board class, used in executing and checking of the moves. Also checks the Mate and Stalemate states.

3.2.2 Constructor & Destructor Documentation

3.2.2.1 Board() `[1/3]`

```
game.Board.Board ( )
```

Default Board Constructor. Creates a Board with the standard chess setup.

3.2.2.2 Board() `[2/3]`

```
game.Board.Board (
            String fen )
```

Custom String Board Constructor. Creates a Board with the given FEN

Parameters

fen	The fen which will be the state of the board, in String format.

3.2.2.3 Board() [3/3]

```
game.Board.Board (
            Board b )
```

Board copy constructor.

Parameters

b	The copyable board.

3.2.3 Member Function Documentation

3.2.3.1 castling()

```
int game.Board.castling (
            Pos from,
            Pos to )
```

Returns which castling move a player is performing, and it's validity.

Parameters

from	From position.
to	To Position.

Returns

0 - White Kingside, 1 - White Queenside, 2 - Black Kingside, 3 - Black Queenside, -1 - None.

3.2.3.2 executeMove()

```
void game.Board.executeMove (
            Pos from,
            Pos to )
```

Executes a move, updating the fen in the process.

Parameters

from	From position.
to	To position.

3.2.3.3 getFen()

```
Fen game.Board.getFen ( )
```

Returns the board's fen.

Returns

The fen of the Board.

3.2.3.4 inCheck()

```
boolean game.Board.inCheck (
            Team color )
```

Checks if there is a Check on the board for a given player.

Parameters

color	The players color which will be checked.

Returns

True if in check.

3.2.3.5 isMate()

```
boolean game.Board.isMate ( )
```

Checks if a mate has occurred for the current player.

Returns

True if it has.

3.2.3.6 isStalemate()

```
boolean game.Board.isStalemate ( )
```

Checks if a stalemate has occurred.

Returns

True if it has.

3.2.3.7 validMove() [1/2]

```
boolean game.Board.validMove (
            Pos from,
            Pos to )
```

Move validator with the default option of checking for castling and the moving player being the one currently moving.

Parameters

from	From position.
to	To position.

Returns

True if the move is valid.

3.2.3.8 validMove() [2/2]

```
boolean game.Board.validMove (
            Pos from,
            Pos to,
            boolean checkcheck,
            Team asTeam )
```

Customisable move validator.

Parameters

from	From position.
to	To position.
checkcheck	If true, will check not to move into checks.
asTeam	Color of the moving pieces.

Returns

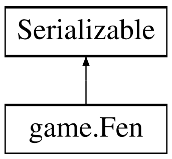
True if move is valid.

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

- src/game/Board.java

3.3 game.Fen Class Reference

Inheritance diagram for game.Fen:



Public Member Functions

- Fen (String fen)
- String toString ()
- Piece getPiece (Pos pos)
- Tile[ ][ ] getTiles ()
- Tile getTile (Pos pos)
- void setTile (Tile tile)
- Team getPlayer ()
- void addTurn ()
- void setPlayer (Team player)
- Pos getEnpassan ()
- void setEnpassan (Pos enpassan)
- void setCastling (int inx, boolean value)
- boolean getCastlingAt (int inx)
- boolean[ ] getCastling ()

3.3.1 Detailed Description

Fen class used to store the state of the board at any given moment. Serializable because of io storage.

3.3.2 Constructor & Destructor Documentation

3.3.2.1 Fen()

```
game.Fen.Fen (
              String fen )
```

Creates a custom fen from a string.

Parameters

fen	The string of the fen.

3.3.3 Member Function Documentation

3.3.3.1 addTurn()

```
void game.Fen.addTurn ( )
```

Increments the turns by 1.

3.3.3.2 getCastling()

```
boolean [] game.Fen.getCastling ( )
```

Returns the array of castling booleans.

Returns

Castling booleans.

3.3.3.3 getCastlingAt()

```
boolean game.Fen.getCastlingAt (
             int inx )
```

Returns the castling availability at the current index.

Parameters

inx	0-WKingside, 1-WQueenside, 2-BKingside, 3-BQueenside.

Returns

True if its available.

3.3.3.4 getEnpassan()

```
Pos game.Fen.getEnpassan ( )
```

Return the EnPassan position on the board.

Returns

EnPassan position.

3.3.3.5 getPiece()

```
Piece game.Fen.getPiece (
            Pos pos )
```

Return a given piece or null from a given position.

Parameters

pos	The position.

Returns

The piece at that position.

3.3.3.6 getPlayer()

```
Team game.Fen.getPlayer ( )
```

Return the player currently on the move.

Returns

The current player.

3.3.3.7 getTile()

```
Tile game.Fen.getTile (
            Pos pos )
```

Returns a tile at a given position.

Parameters

pos	The given position.

Returns

The tile at the position.

3.3.3.8 getTiles()

```
Tile [][] game.Fen.getTiles ( )
```

Returns a 8x8 array of tiles.

Returns

The array of tiles.

3.3.3.9 setCastling()

```
void game.Fen.setCastling (
             int inx,
             boolean value )
```

Sets the castling currently available.

Parameters

inx	0-WKingside, 1-WQueenside, 2-BKingside, 3-BQueenside.
value	New value of the given index.

3.3.3.10 setEnpassan()

```
void game.Fen.setEnpassan (
             Pos enpassan )
```

Sets a new EnPassan position.

Parameters

enpassan	The new position.

3.3.3.11 setPlayer()

```
void game.Fen.setPlayer (
            Team player )
```

Sets the current player to a new one.

Parameters

player	New players color.

3.3.3.12 setTile()

```
void game.Fen.setTile (
            Tile tile )
```

Sets a tile into its position in the array.

Parameters

tile	The tile.

3.3.3.13 toString()

```
String game.Fen.toString ( )
```

Transforms the object into a readable fen.

Returns

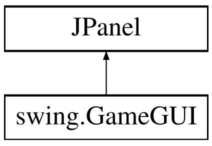
The object in String format.

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

- src/game/Fen.java

3.4 swing.GameGUI Class Reference

Inheritance diagram for swing.GameGUI:



Public Member Functions

- GameGUI ()
- void setState (State state)
- State getState ()

3.4.1 Detailed Description

The Graphical interface of the chessboard.

3.4.2 Constructor & Destructor Documentation

3.4.2.1 GameGUI()

```
swing.GameGUI.GameGUI ( )
```

Constructs the JPanel with a 9x9 grid and a toolbar.

3.4.3 Member Function Documentation

3.4.3.1 getState()

```
State swing.GameGUI.getState ( )
```

Gets the current state of the gui.

Returns

The current State.

3.4.3.2 setState()

```
void swing.GameGUI.setState (
             State state )
```

Sets the state of the game, GAME if currently playing else MENU

Parameters

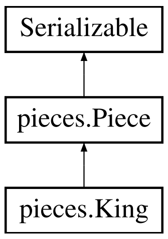
state	Settable state.

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

- src/swing/GameGUI.java

3.5 pieces.King Class Reference

Inheritance diagram for pieces.King:



Public Member Functions

- **King** (Team color)
- boolean validMove (Pos from, Pos to, Fen fen)

Additional Inherited Members

3.5.1 Detailed Description

Classic chess King.

3.5.2 Member Function Documentation

3.5.2.1 validMove()

```
boolean pieces.King.validMove (
            Pos from,
            Pos to,
            Fen fen )
```

Abstract move validator. Each piece has a different move-set so its implemented differently.

Parameters

from	From position.
to	To positon.
fen	The tiles.

Returns

True if the move is in the pieces move-set.

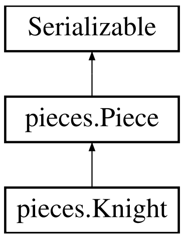
Reimplemented from pieces.Piece.

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

- src/pieces/King.java

3.6 pieces.Knight Class Reference

Inheritance diagram for pieces.Knight:



Public Member Functions

- **Knight** (Team color)
- boolean validMove (Pos from, Pos to, Fen fen)

Additional Inherited Members

3.6.1 Detailed Description

Classic chess Knight.

3.6.2 Member Function Documentation

3.6.2.1 validMove()

```
boolean pieces.Knight.validMove (
            Pos from,
            Pos to,
            Fen fen )
```

Abstract move validator. Each piece has a different move-set so its implemented differently.

Parameters

from	From position.
to	To positon.
fen	The tiles.

Returns

True if the move is in the pieces move-set.

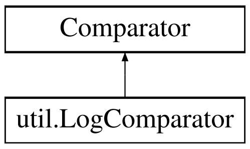
Reimplemented from pieces.Piece.

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

- src/pieces/Knight.java

3.7 util.LogComparator Class Reference

Inheritance diagram for util.LogComparator:



Public Member Functions

- int **compare** (Object o1, Object o2)

3.7.1 Detailed Description

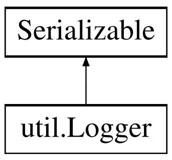
Comparator interface class for sorting Loggers.

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

- src/util/LogComparator.java

3.8 util.Logger Class Reference

Inheritance diagram for util.Logger:



Public Member Functions

- Logger ()
- Logger (String path)
- void put (Fen fen)
- HashMap< Integer, Fen > getMoves ()
- Fen get (int key)
- void drop ()
- Fen getLast ()
- void save (String name)
- void configEnd (int inx)
- String getName ()

3.8.1 Detailed Description

The main class of saving the game, so it has to be serializable.

3.8.2 Constructor & Destructor Documentation

3.8.2.1 Logger() [1/2]

```
util.Logger.Logger ( )
```

Creates a new logger which has the name of the current time.

3.8.2.2 Logger() [2/2]

```
util.Logger.Logger (
             String path )
```

Open an already existing save based on its path.

Parameters

path	The path of the directory.

3.8.3 Member Function Documentation

3.8.3.1 configEnd()

```
void util.Logger.configEnd (
             int inx )
```

Configures the endstate of a game.

Parameters

inx	0 - Mate, 1 - Stalemate.

3.8.3.2 drop()

```
void util.Logger.drop ( )
```

Deletes the last state from the HashMap, used in reversing a move.

3.8.3.3 get()

```
Fen util.Logger.get (
             int key )
```

Return a value based on its key(index).

Parameters

key	The keyof the value.

Returns

The needed state.

3.8.3.4 getLast()

```
Fen util.Logger.getLast ( )
```

Returns the last value put into the HashMap

Returns

The last value.

3.8.3.5 getMoves()

```
HashMap<Integer, Fen> util.Logger.getMoves ( )
```

Gives back the HashMap which stores the moves.

Returns

The HashMap.

3.8.3.6 getName()

```
String util.Logger.getName ( )
```

Returns the path of the Logger.

Returns

The path.

3.8.3.7 put()

```
void util.Logger.put (
            Fen fen )
```

Puts a new move into the logger.

Parameters

fen	The new value.

3.8.3.8 save()

```
void util.Logger.save (
            String name )
```

Saves the logger into a text file

Parameters

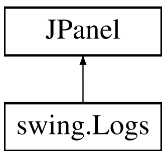
name	The name of the file if blank, random.

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

- src/util/Logger.java

3.9 swing.Logs Class Reference

Inheritance diagram for swing.Logs:



Public Member Functions

- Logs ()
- void initNames ()
- void setState (State state)
- State getState ()

3.9.1 Detailed Description

The logs window which contains the saved games.

3.9.2 Constructor & Destructor Documentation

3.9.2.1 Logs()

```
swing.Logs.Logs ( )
```

Constructs the JPanel.

3.9.3 Member Function Documentation

3.9.3.1 getState()

```
State swing.Logs.getState ( )
```

Return the current state.

Returns

The current state.

3.9.3.2 initNames()

```
void swing.Logs.initNames ( )
```

Reads the saved games into an ArrrayList.

3.9.3.3 setState()

```
void swing.Logs.setState (
             State state )
```

Sets the state of the window, if running LOG, else MENU.

Parameters

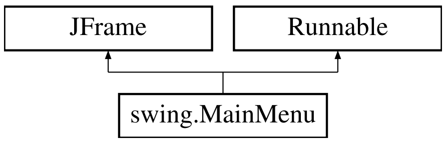
state	The wanted state.

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

- src/swing/Logs.java

3.10 swing.MainMenu Class Reference

Inheritance diagram for swing.MainMenu:



Public Member Functions

- MainMenu ()
- void run ()

Static Public Member Functions

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

3.10.1 Detailed Description

Simple menu with 2 buttons and a title. Runnable so we can navigate back from the submenus.

3.10.2 Constructor & Destructor Documentation

3.10.2.1 MainMenu()

```
swing.MainMenu.MainMenu ( )
```

Constructs the window.

3.10.3 Member Function Documentation

3.10.3.1 run()

```
void swing.MainMenu.run ( )
```

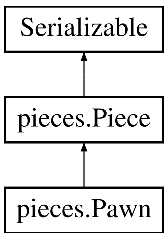
Runnable interface implementation, simply checks which state the application is, and shown the appropriate window.

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

- src/swing/MainMenu.java

3.11 pieces.Pawn Class Reference

Inheritance diagram for pieces.Pawn:



Public Member Functions

- **Pawn** (Team color)
- boolean validMove (Pos from, Pos to, Fen fen)

Additional Inherited Members

3.11.1 Detailed Description

Classic chess Pawn.

3.11.2 Member Function Documentation

3.11.2.1 validMove()

```
boolean pieces.Pawn.validMove (
            Pos from,
            Pos to,
            Fen fen )
```

Abstract move validator. Each piece has a different move-set so its implemented differently.

Parameters

from	From position.
to	To positon.
fen	The tiles.

Returns

True if the move is in the pieces move-set.

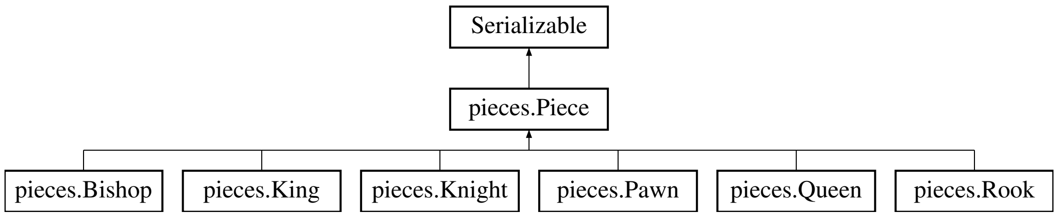
Reimplemented from pieces.Piece.

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

- src/pieces/Pawn.java

3.12 pieces.Piece Class Reference

Inheritance diagram for pieces.Piece:



Public Member Functions

- boolean equals (Object o)
- Team getColor ()
- PieceType getType ()
- abstract boolean validMove (Pos from, Pos to, Fen fen)

Protected Attributes

- Team **color**
- PieceType **type**

3.12.1 Detailed Description

Abstract piece class. Describes a chess piece. Serializable because of io saving.

3.12.2 Member Function Documentation

3.12.2.1 equals()

```
boolean pieces.Piece.equals (
            Object o )
```

Equals override to compare pieces.

Parameters

o	Other piece.

Returns

True if they are equal.

3.12.2.2 getColor()

```
Team pieces.Piece.getColor ( )
```

Return the color of the piece.

Returns

Piece's color.

3.12.2.3 getType()

```
PieceType pieces.Piece.getType ( )
```

Return the type of the piece.

Returns

Piece's type.

3.12.2.4 validMove()

```
abstract boolean pieces.Piece.validMove (
             Pos from,
             Pos to,
             Fen fen )  [abstract]
```

Abstract move validator. Each piece has a different move-set so its implemented differently.

Parameters

from	From position.
to	To positon.
fen	The tiles.

Returns

True if the move is in the pieces move-set.

Reimplemented in pieces.Rook, pieces.Queen, pieces.Pawn, pieces.Knight, pieces.King, and pieces.Bishop.

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

- src/pieces/Piece.java

3.13 util.PieceKey Class Reference

Public Member Functions

- **PieceKey** (PieceType type, Team color)
- boolean **equals** (Object o)
- int **hashCode** ()

3.13.1 Detailed Description

Stores a type and a color, giving a unique identifier to a piece. Has equals and hashCode functions.

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

- src/util/PieceKey.java

3.14 util.PieceType Enum Reference

Public Attributes

- **pawn**
- **rook**
- **knight**
- **bishop**
- **king**
- **queen**

3.14.1 Detailed Description

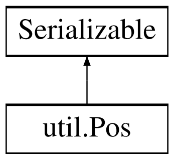
Types of the classic chess pieces.

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

- src/util/PieceType.java

3.15 util.Pos Class Reference

Inheritance diagram for util.Pos:



Public Member Functions

- **Pos** (int x, int y)
- int **X** ()
- int **Y** ()
- boolean **equals** (Object o)
- int **hashCode** ()

3.15.1 Detailed Description

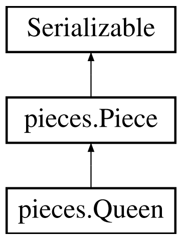
Stores a position, x and y values. Has equals and hashCode functions. Serializable because of io storage.

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

- src/util/Pos.java

3.16 pieces.Queen Class Reference

Inheritance diagram for pieces.Queen:



Public Member Functions

- **Queen** (Team color)
- boolean validMove (Pos from, Pos to, Fen fen)

Additional Inherited Members

3.16.1 Detailed Description

Classic chess Queen.

3.16.2 Member Function Documentation

3.16.2.1 validMove()

```
boolean pieces.Queen.validMove (
            Pos from,
            Pos to,
            Fen fen )
```

Abstract move validator. Each piece has a different move-set so its implemented differently.

Parameters

from	From position.
to	To positon.
fen	The tiles.

Returns

True if the move is in the pieces move-set.

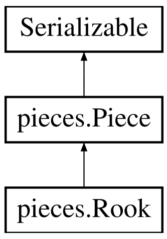
Reimplemented from pieces.Piece.

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

- src/pieces/Queen.java

3.17 pieces.Rook Class Reference

Inheritance diagram for pieces.Rook:



Public Member Functions

- **Rook** (Team color)
- boolean validMove (Pos from, Pos to, Fen fen)

Additional Inherited Members

3.17.1 Detailed Description

Classic chess Rook.

3.17.2 Member Function Documentation

3.17.2.1 validMove()

```
boolean pieces.Rook.validMove (
            Pos from,
            Pos to,
            Fen fen )
```

Abstract move validator. Each piece has a different move-set so its implemented differently.

Parameters

from	From position.
to	To positon.
fen	The tiles.

Returns

True if the move is in the pieces move-set.

Reimplemented from pieces.Piece.

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

- src/pieces/Rook.java

3.18 util.State Enum Reference

Public Attributes

- **MENU**
- **GAME**
- **LOG**

3.18.1 Detailed Description

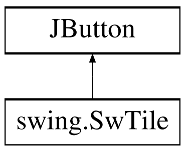
The states of the Application.

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

- src/util/State.java

3.19 swing.SwTile Class Reference

Inheritance diagram for swing.SwTile:



Public Member Functions

- Pos **getPos** ()
- void **setPos** (Pos pos)

3.19.1 Detailed Description

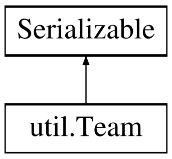
Class that extends JButton with the little extra of storing simple coordinates.

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

- src/swing/SwTile.java

3.20 util.Team Enum Reference

Inheritance diagram for util.Team:



Public Attributes

- **white**
- **black**

3.20.1 Detailed Description

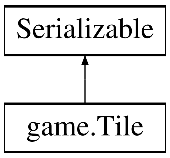
Colors in chess.

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

- src/util/Team.java

3.21 game.Tile Class Reference

Inheritance diagram for game.Tile:



Public Member Functions

- Tile (int x, int y)
- Tile (Pos pos)
- Tile (Piece piece, Pos pos)
- Piece getPiece ()
- Pos getPos ()
- void setPos (Pos pos)

3.21.1 Detailed Description

Describes a single tile, its position and what piece is on it. Serializable because of io storage.

3.21.2 Constructor & Destructor Documentation

3.21.2.1 Tile() [1/3]

```
game.Tile.Tile (
              int x,
              int y )
```

Constructs a tile witch the given x, y values.

Parameters

x	x value.
y	y value.

3.21.2.2 Tile() [2/3]

```
game.Tile.Tile (
            Pos pos )
```

Constructs a tile with a given position.

Parameters

pos	The given position.

3.21.2.3 Tile() [3/3]

```
game.Tile.Tile (
            Piece piece,
            Pos pos )
```

Constructs a tile with a given position and a piece.

Parameters

piece	The piece.
pos	The position.

3.21.3 Member Function Documentation

3.21.3.1 getPiece()

```
Piece game.Tile.getPiece ( )
```

Returns the piece on the tile.

Returns

The piece on the tile.

3.21.3.2 getPos()

```
Pos game.Tile.getPos ( )
```

Returns the position of the tile.

Returns

Tile's position.

3.21.3.3 setPos()

```
void game.Tile.setPos (
            Pos pos )
```

Sets the tiles position.

Parameters

pos	Wanted position.

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

- src/game/Tile.java

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