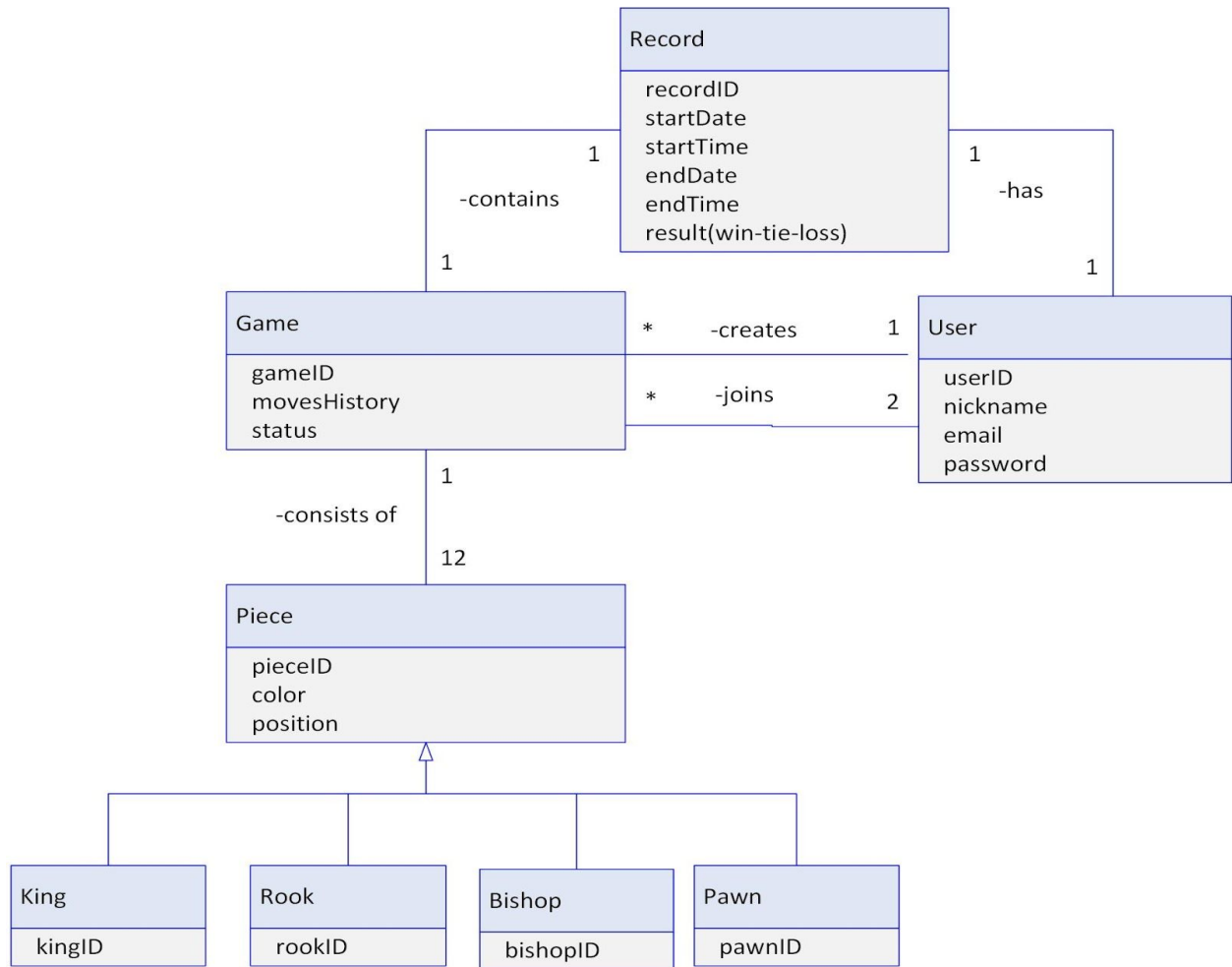


# UML Class Diagram



# Glossary

## **Game**

A “game” is an instance of the rollerball application in which two registered users use the application to compete in the rollerball board game. The objective of an active game of rollerball is to checkmate the king piece of the opposing user or bring the user's own king to the starting square of the opposing king on the opposite side of the board, when having travelled to that side of the board in a clockwise direction. When an objective is met by one of the competing users that user is considered the winner of the game and the game is considered over.

## **gameID**

A “gameID” is an attribute of “game”. It used for unique identification of “game” instances.

## **movesHistory**

“movesHistory” is an attribute of “game”. “movesHistory” is used to track the moves that are made throughout the duration of a “game”.

## **status**

“Status” is an attribute of “game”. “Status” is used to track the current state of a game.

## **Record**

A “record” is a data element that contains information about a finished “game”.

## **recordID**

“recordID” is an attribute of “record” used for unique identification.

## **startDate**

“startDate” is an attribute of “record”. “startDate” is used to track the date a “game” started.

## **startTime**

“startTime” is an attribute of “record”. “startTime” is used to track the time a “game” started.

**endDate**

“endDate” is an attribute of “record”. “endDate” is used to track the date a “game” ended.

**endTime**

“endTime” is an attribute of “record”. “endTime” is used to track the time a “game” ended.

**result**

“Result” is an attribute of record. “result” tracks which player won, lost, or tied a given game.

**User**

A “user” is a person who uses the rollerball application. A user can be unregistered or registered.

**userID**

A registered “user” will have a “userID” attribute. “userID” is used for unique identification.

**nickname**

“Nickname” is a registered “user” attribute that the player chooses as an alias to be seen by other users.

**email**

“Email” is an attribute of a registered “user”. The “email” is used to contact the player.

**password**

“Password” is an attribute of a registered “user”. “Password” is required to be entered when a user is logging in to ensure security.

**Piece**

A “piece” is a “game” component that is moved from space to space on the “game” board by a user. In a “game”, each user starts off in control of six pieces, which are the user moves about the board to capture the opposing user’s pieces by landing on them during a move. The pieces are used to achieve a “game” winning objective.

**pieceID**

“pieceID” is an attribute of “piece”. “pieceID” uniquely identifies a piece.

**color**

“Color” is an attribute of piece. “Color” signifies which user the piece is controlled by.

**position**

“Position” is an attribute of “piece”. “Position” is the current location of the piece on the game board.

**checkmate**

A “checkmate” is a game position in which a user’s king is threatened with capture and there is no way to remove the threat. This causes the user who is executing the “checkmate” to win the game.

**King**

The king is a game piece that can move one step in any direction. The opponent's king can be checkmated by the user or the user's own king can be moved clockwise to the starting square of the opposing player's king on the opposite side of the board. Successfully executing either of these will cause the user to win and end the game.

**Rook**

A rook is a game piece that moves any number of steps orthogonally in a straight line in a forward direction, or any number of steps orthogonally sideways. It can also move one step orthogonally backward on its ring. When moving along the outer ring, the rook may "rebound" off a corner square and continue its forward journey at 90 degrees. Only one rebound is permitted for a given rook move.

**Bishop**

A bishop is a game piece that moves any number of steps diagonally forward, or one step diagonally backward. The bishop may rebound off an outer or inner board edge and continue its forward diagonal journey at 90 degrees. Only one rebound is permitted for a given bishop move.

**Pawn**

A pawn is a game piece that moves one step orthogonally forward on the ring on which it currently stands, or one step diagonally forward to either ring. A pawn does not move backward or sideways, and there is no initial two-step option. A pawn is promoted to rook or bishop when reaching either of the two starting squares of the opponent's pawns.