

How To Play Board Games (Android App)

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Overview

- Project Idea: Develop a mobile application for learning rules of various board games with visual and textual elements to help different learning styles.
- Github Link: <https://github.com/saraswathidatar/HowToPlayBoardGames>
- Intended Users: Children and board game enthusiasts
- License: MIT License
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About App:

Starting with a game like Chess includes:

Game layout:

- How to set up the board
- List the Pieces and when clicked on individual piece specifies rules related to it
- Also includes text to speech to read out the rules

Design decisions

- Learnt android basics such as activity, intent, managing activity lifecycle
- Activity lifecycle- onCreate(), onStart(), onResume(), onPause(), onStop(), and onDestroy()
- MainActivity.java- First screen that appears when user launches app
- Manifest file- declares activities and their attributes
- Java files
- Layout xml files
- Text to speech interface- Implement the TextToSpeech.OnInitListener to be notified of the completion of the initialization.

Screenshots

How to Play The Game of Chess

SETTING UP THE BOARD

PIECES

CHALLENGES



Setting Up The Board



Tips

- Your front row is all pawns
- The back row goes from outside to inside, rook, knight, bishop, with the king and queen in the middle
- Queen always stands on her color



The Pieces of Chess



PAWN



ROOK



KNIGHT



BISHOP



QUEEN



KING



The Pawn

The pawn is the basic piece in chess. You have eight pawns who fill your front row at the start of the game.



Movement

The pawn can move forward one square at a time but cannot attack directly ahead of itself. Instead the pawn may attack ahead to the right or left. On a pawns first move it may move two squares forward.

Special Rules

Promotion

A pawn that moves across the entire board may be changed into any other piece except a second king. In most cases players choose the queen.

En Passant

If your opponent moves their pawn forward two squares past your pawns attack square on your next turn you may attack into that square and take your opponents pawn.

rook



The Rook

The rook, also known as the castle or tower is a piece in chess. You get two rooks each game. They start in your corners squares.



Movement

The rook can move horizontally or vertically (up or down and left or right) any number of unoccupied squares. It can capture opposing pieces by moving onto their squares.

Special Rules

Castling

When castling you can move your king two steps towards your rook and your rook to the opposite side of the king. To castle the following must be true.

- Neither the king or rook may have moved
- There can be no pieces between the king and rook
- The king may not be in check
- No squares between the king and rook can be threatened

Knight



The Knight

The knight is a piece that typically represents armed cavalry. It is often represented by the head of a horse. Each player starts with two knichs. Each begining on the back row one square in.



Movement

The knight can move either two squares horizontally and one square vertically, or two squares vertically and one square horizontally. Unlike other pieces it can jump over pieces in the squares it passes. It cannot move to a square that is already occupied by allied pieces. If it move to a square occupied by an enemy piece it captures that piece.

Bishop



The Bishop

A bishop is a piece in the board game of chess. Each player begins the game with two bishops. One starts between the king's knight and the king, the other between the queen's knight and the queen.



Movement

The bishop has no restrictions in distance for each move, but is limited to diagonal movement. Bishops, like all other pieces except the knight, cannot jump over other pieces. A bishop captures by occupying the square on which an enemy piece sits. Because of the nature of their movement, the bishops always remain on the same colored squares.

Queen



The Queen

The Queen is often considered the most powerful chess piece on the chessboard. She is placed next to the king, on her own color. The game is not over when she is lost, but if your opponent has a Queen and you do not, you may find yourself at a considerable disadvantage!



Movement

Like the King, the Queen can move in any direction. However, she is not limited to just one space - she can move any number of spaces in any direction, as long as she is not obstructed by another chess piece. Of course, if that obstruction is an opposing chess piece, she is free to capture it!

King



The King

The King is the most important chess piece on the chessboard. If he is checkmated, the game is over!



Movement

The King can move one space in any direction. The king can also castle. He can never be in the space adjacent to the opposing King.

Error



Oops! There's Nothing Here Yet!
Sorry, have this puppy.



About Us

This application is brought to you
by Saraswathi Datar. Built for
CS 561 Open Source Software
Development in Summer 2017.

Help

1. Click on Setting up Board to see how to set up board.
2. Click on Pieces to see the list of pieces and upon clicking your piece of interest, you can further view its details.
3. Click on audio button to select speech option for the text.
4. Click on Home button to return to Home Page.

Lessons Learned

- Having too many activities in the activity stack is not a good idea.
- Handling orientation changes is an important step in making your app interactive
- Need to build a dynamic UI with fragments to support wide range of screen sizes
- Embedding Youtube player

Future enhancements

- Scale the app to include other board games
- Include a list of challenges for users to play with
- Add some gifs and animated pictures for pieces
- Include an email facility

References

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