98point6 Drop Token

Problem Statement

We would like you to develop an application that allows a player to enjoy a game of 9dt, or 98point6 Drop Token, against a service that we have made. You can design the app however you think is best. We're not going to judge how pretty it is, but we are looking for developers who can put together a good UX without oversight.

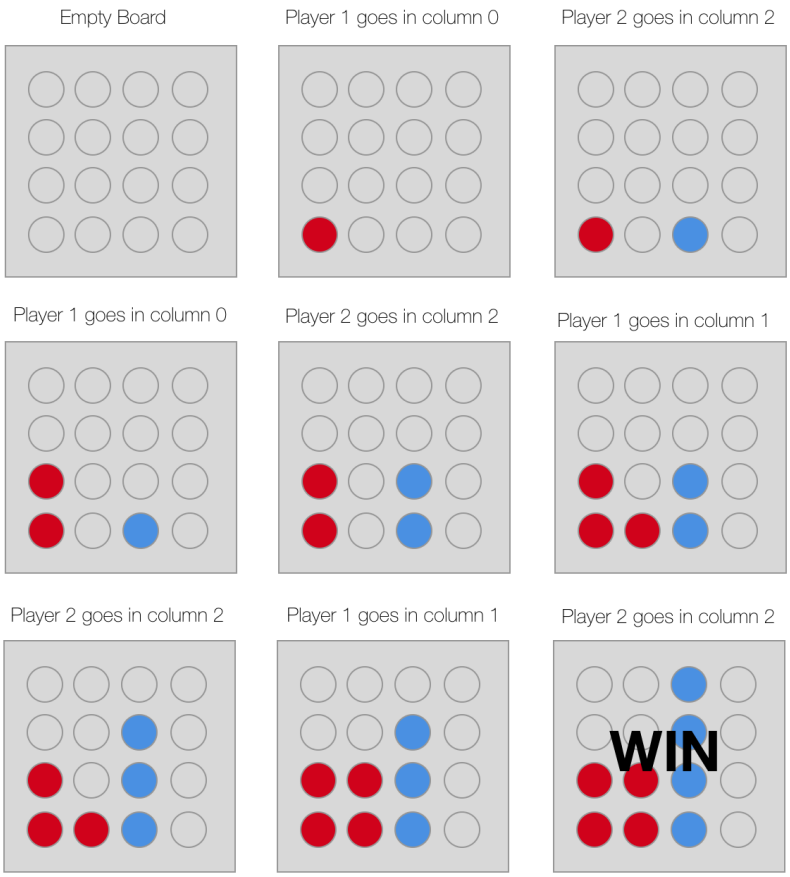
For all candidates, please put together a solution that you believe uses best practices. No game frameworks!

- If you are applying for an iOS job, please use Swift or Obj-C and UIKit.
- If you are applying for an Android job, please use Java, Kotlin or Scala and the Android SDK.
- If you are applying for a Web Development job, feel free to use whatever framework/language you are most proficient in as long as it uses HTML5.

Rules of 9dt

Drop Token takes place on a 4x4 grid. A token is dropped along a column (labeled 0-3) and said token goes to the lowest unoccupied row of the board. A player wins when they have 4 tokens next to each other either along a row, in a column, or on a diagonal. If the board is filled, and nobody has won then the game is a draw. Each player takes a turn, starting with player 1, until the game reaches either win or draw. If a player tries to put a token in a column that is already full, that results in an error state, and the player must play again until they play a valid move.

Example Game



Our 9dt service

We've created a not-very-good 9dt playing service at this endpoint: (https://w0ayb2ph1k.execute-api.us-west-2.amazonaws.com/production). It takes a GET param called "moves" that is a JSON array of all the moves that have taken place from the beginning of the game and returns that array plus it's move. It will 400 when it's given an invalid set of moves - for example if a column has too many tokens in it - but it can not tell if the player has won or lost.

Here is an example call for a game where player 1 went in column 0, 3 and 3 and player 2 went in column 0 and 2: https://w0ayb2ph1k.execute-api.us-west-2.amazonaws.com/production?moves=[0,0,3,2,3]

Requirements

1. The app must allow the player to choose whether they want to go first, or if they want our service to go first.
2. If there is a win on either side, the app must display who won and let the player play again.
3. If the board is full, the app must tell the user the game is a draw and let the player play again.

We're going to ask about how you architected the code, so think about ways this game could be extended in the future.

Submission Instructions

Please send us the code by midnight the day prior to the interview to give us time to review it before the interview.

To submit the source code, the easiest way is to share a private Github or BitBucket repository with us (we will send you the appropriate usernames). Alternatively, we can accept compressed tarballs or zip archives. We cannot accept those over email, though, so we recommend a file sharing service like Google Drive, Dropbox, or similar.