# React: Weekend Assignment

React– Tic Tac Toe

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The following exercise contains the following subjects:

- Hooks

### Submitting instructions:

Please add the following to hive:

- A link to the repository
- Free text – a description of the app. Stuff you found hard to implement, known bugs and your review of this assignment.

### The assignment

We are going to build a tic-tac-toe game with react hooks.

I've broken down the assignment in two sections.

Section 1 deals with the basics of the game.

Section 2 deals with time travel.

Here is a video example of what the end result should look like.

### Things to think about

What components should you have?

What kind of state do we need?

Where to keep your state?

**Section 1**

**Start small and build up the complexity.**

1. Get a board to be displayed on the screen.
2. How are you going to represent the board in code? Matrix?
3. First, turn each square into a X.
4. Represent that "X" into your board.

- Do not override you state. Create a new state and get a reference to the state. Modify that new state. So section 2 will be possible.

5. Then, take turns to change the square to a O.
6. Represent that "O" to your board.
7. You cannot click on a square if it is occupied
8. Determine if somebody won.

**Section 2**

**Not mutating state directly**

Immutability makes complex features much easier to implement. Because we created a copy of our state we can implement a "time travel" feature that allows us to review the tic-tac-toe game's history and "jump back" to previous moves. This functionality isn't specific to games — an ability to undo and redo certain actions is a common requirement in applications. Avoiding direct data mutation lets us keep previous versions of the game's history intact, and reuse them later.

Each time we make a move, store the board data in a state called "history" for example, that will represent all board states, from the first to the last move. And anytime you want reference to a particular move you can fetch it from the "history" state.

Submit the file to Hive.