# FOUR

*Being, a game in which four shapes in four colours are placed in a virtual grid according to four constraints.*

## Components

Each player gets a set of 16 pieces; each of the following shapes in four different colours.
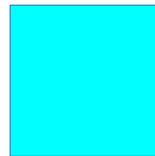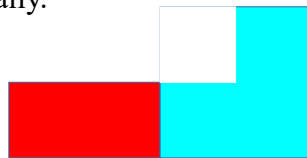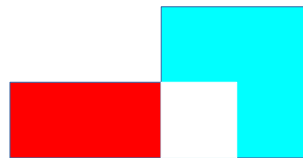
Dot    Line    El    Box

## Game

Players take turns placing pieces in a virtual grid according to the constraints below, until one player cannot play. The last player to place a piece wins.

## Constraints

1. **Connected**: after the first piece, each piece you play must touch at least one other piece orthogonally.
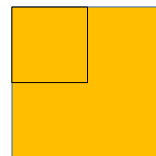
   Right          Wrong

2. **Different**: you may not play the same shape or colour that your opponent just played.

3. **Not adjacent**: you may not place a piece adjacent to a piece of the same shape or colour.

   Wrong – same shape          Wrong – same colour

4. **Bounded**: you may not play so that the playing area exceeds 9 squares in any direction.

## Short Game

Play only with the pieces sized 1-3; in this case, the playing area may not exceed 7 squares.

# Strategy Tips

**Think With Your Hands**

At the start of your turn, separate the pieces you can play from the pieces you can't.

**Play Boxes Early**

*Boxes* are the hardest to get rid of in the late game, so play them early if you can. Note that the second player can prevent the first player from playing off all their *Boxes* immediately with some variation of the following sequence;

1. First plays a *Box*,

2. Second plays an *El*,

3. First plays a second *Box*,

4. Second plays a *Dot* in the unplayed colour.
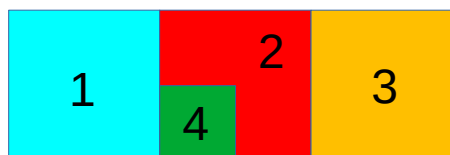
First now cannot play a red *Box* because it will touch either red or another *Box*, and cannot play a green *Box* because Second has just played a green piece.

**Diversify**

Diversity in both shape and colour is important since it gives you more options; however, *Boxes* (and to a lesser extent *Els*) are hard to play so aim to keep most of your *Dots* and *Lines* for the endgame. Running out of a colour before the endgame is a sure route to failure.

**Attachment Points**

It is sometimes useful to consider the board in terms of attachment points (places where you can legally place a piece) and not worry too much about the orientation of the piece you would play there. As you move to the endgame, count the number of attachment points you have for your pieces; try to maximise yours, and minimise your opponent's.

**Dead Pieces**

Keep an eye on the *Boxes* and *Els*. In the later stages of the game, they can become unplayable ("Dead") either because there are no spaces large enough for them or because the adjoining pieces are the same shape or colour. Try to kill your opponent's pieces and keep yours alive.

**Control the Shape of the Board**

Once the board dimensions get locked down, you have entered the endgame. The board becomes divided into smaller regions and the quantity of available moves decreases dramatically. In each dimension, try to be the one to lock things down (there is often some parity counting here), so that you can create regions that are beneficial to you and bad for your opponent. Colours of attachment points and size of the disjoint areas are the primary concerns here.

**Use Negative Space**

The *Els* have an empty empty corner; use them to make holes that only you can fill in the endgame. One such hole won't help much because your opponent can often prevent you from playing there. If you can make two or more, that could be a winning advantage.

**Practise Against the AI**

Ai Ai is a free game playing engine which plays Four and many other abstract strategy games. You'll find it at http://mrraow.com/index.php/aiai-home/

# Design Notes in Four Paragraphs

Four, as the name suggests, is inspired by the Four Colour Theorem, which states that *any plane divided up into regions can be coloured with four or fewer colours, so that no two regions of the same colour share an edge*. As a mathematician, I find this fascinating; like Fermat's Last Theorem it's easy to describe, but very hard to prove.

I have played around with games using this mechanism for years (my earliest design notes on the subject were written in 1997), trying to find something satisfying. However, most of my attempts have been too nim-like to be fun – exhibiting a tendency to go from impenetrable to solved over the course of a single move.

Chroma (in collaboration with Cameron Browne) was my first successful attempt at a 4-colour game; there, I solved the problem by introducing a strict ordering to the pieces played, allowing players to read ahead more easily, while introducing asymmetry between the players by giving them different quantities of each piece to play over the course of the game.

In Four, the key constraint is that a player can't play a piece matching the opponent's last piece in shape or colour, making for a very interactive game. There are some obvious strategies to guide early play (get rid of your largest pieces, which can be hard to play later), but following them blindly reduces a player's flexibility, and can get them into big trouble in the final stages of the game. Aesthetically, I'm very pleased with the game too, with the Four motif reinforced through the four colours, four shapes (made of 1-4 blocks), and four constraints. I hope you enjoy it as much as I do!

# Awards

Four was joint winner of the BoardGameGeek award for Best Combinatorial 2-player Game of 2013.

# Puzzles

What is the shortest possible game? (The current record is 12 moves.)

Can you find a way to pack all the pieces legally into the 9x9 grid? It is possible!

*Four is (c) Stephen Tavener, 2012*

You can find out more about my games here:
http://mrraow.com/uploads/MyDesigns/my_designs.html