(Mini) Quoridor Game

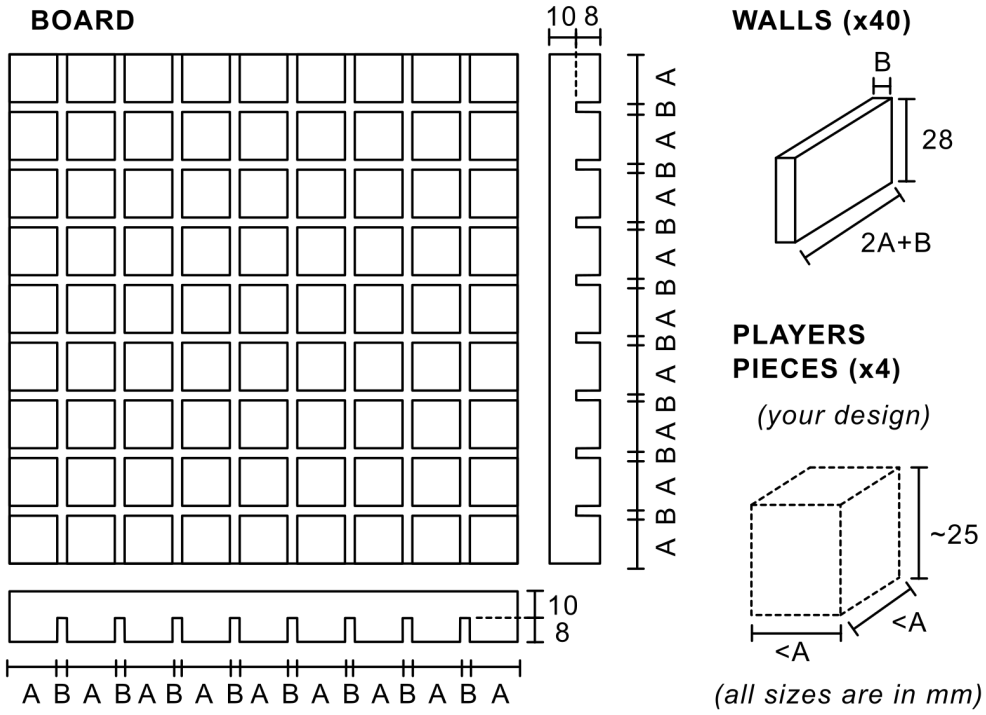
Reasons:

- Easy first project with the table saw
- Cheap (~10€ in Praxis) (Note: expect ~40€ + extra wood/finish products...)
- Good game for 2-4 players with a duration of 15-25min

Game tutorial: https://www.youtube.com/watch?v=39T3L6hNfmg

Design

Design based on the "Mini Quoridor" game.



Total dimensions of the board: (9A+8B) x (9A+8B) x 18

My choice: A=20 and B=4 ==> 212 x 212 x 18

- 18mm is the thickness of wood boards in Praxis.
- B=4 because Praxis sells thin wood with thickness=4mm. Praxis also has plywood of 3mm, which makes it easier to build the game as the saw in the table saw is also 3mm thick.

Materials

These are the products I bought from Praxis for this project:

(1) Sencys timmerplaneel vuren 80x30cm 18mm. (~20€)

(2) Schaaflat 4x28 grenen 270cm. (~5€)

(3) Any finish product to protect the wood, e.g. paint, Vernis,... (~20€)

Build Process

Before cutting the wood, I recommend practicing the cuts with scrap wood to get familiar with the table saw and these cuts.

1. Board

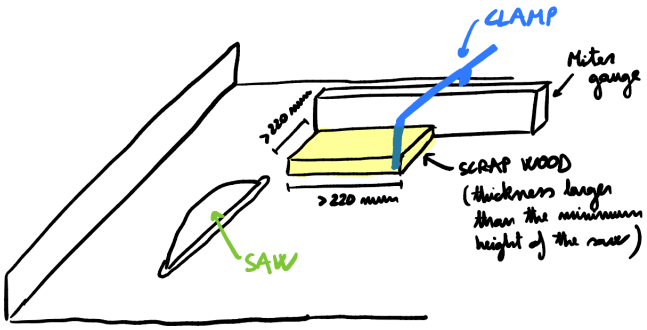
1. Cut (1) into a square of 212x212.

Tips:

- Cut first 220x220 just in case the sides are incorrect (e.g. not 90deg, not considering the saw's thickness...)
- Cut all four sides, do not use the cuts from Praxis (they are not very nice)
- The table saw is perfect for making parallel cuts (using the rip fence), but it can be difficult to calibrate the Miter gauge to cut 90deg (because our gauge does not have a lock at 90deg).
- Check that the saw is perpendicular to the table (at 90deg)

2. Mark the locations of the grooves on the board.

3. Remove the top vacuum of the table saw and prepare the following setup to cut the grooves:



Note: the scrap wood block is required because the minimum height of the saw is more than 8mm (the height of our grooves).

Tip: use a filter mask as the vacuum has been removed.

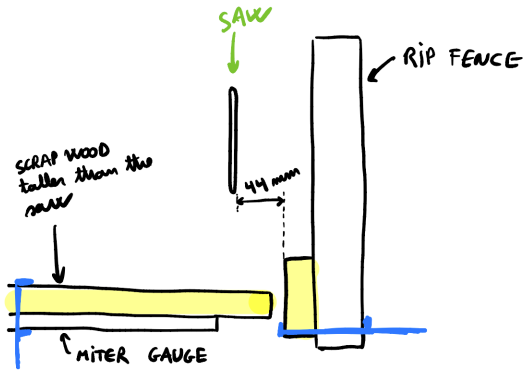
4. Place the board on the scrap wood and set the height of the saw to make 8mm grooves.

5. Make the grooves. You'll have to make 2 cuts per groove because the saw is 3mm and the grooves are 4mm.

6. Polish the edges with sandpaper.

2. Walls

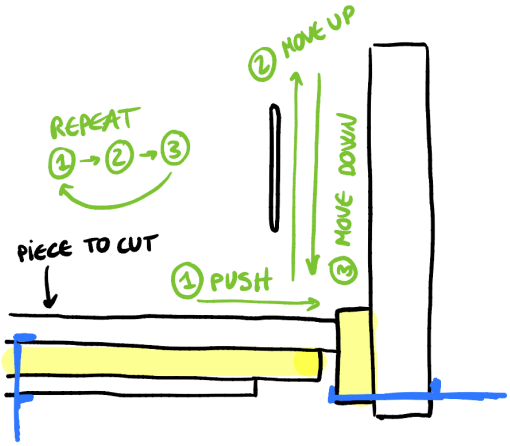
1. Prepare the following setup (top view of the table saw):



Note: this setup allows making repetitive cuts by pushing the wood piece to the scrap wood attached to the rip fence. The scrap wood on the Miter gauge allows perfect cuts by avoiding tilts in pieces on the right of the saw, this is why it needs to be taller than the saw.

2. Cut (2) into two smaller, handable pieces using the Miter saw.

3. Repeat the cut 40 times as follows:



3. Player pieces

Here you can use whatever machine you prefer, for example, the belt sander.

4. Finish

1. Sand all pieces (and all their sides) with the rotary sander using 120-grid sandpaper (then you can also use 180 or 240).

Tip: draw some lines with a pencil (without applying force) covering the whole piece to track where you have already sanded.

2. Apply a layer of water-based Vernis and wipe off the excess. Let it dry (check the package to know how long to wait).

Note: water-based finishes make it easier to clean the utensils (use water) than oil-based finishes.

3. Apply a second (or more) layer of Vernis and wipe off the excess.

Note: soft woods (like pinewood) need several finish layers because they are very porous.