So we decided that we wanted to use a magnet to move the pieces. That magnet should be able to reach all the fields of the boards, like this <demonstrate>. First, we wanted to make this whole system out of wood, but came to the conclusion that there was too much friction of wood against wood.

Then, we wanted to use a screw thread, which enables movement like this. Unfortunately, there was nothing for sale that we could use.

So we decided to ship these aluminium components from America, and it worked like a charm.

Next we needed a way to control the movement of the magnet. We used these motors, called stepper motors, to move the magnet in a horizontal and in a vertical direction. But we still needed some kind of mini computer that could tell the motors when to move and in which direction. For that we used an Arduino. This is the ‘brain’ of the whole robot, so all the wires end here.

The red components on the board are necessary because the blue Arduino does not have to power to directly drive the motors. They act as a translator between Arduino and the motors.

I told you before that the Arduino is the brain of the robot. But like any other computer, it can’t think on its own. Every single decision that it makes is based on instructions given by humans, us. So we had to write the program ourselves. This is the result.

Are there any questions about the code?