

# Write-up

- **Synopsis**

We chose for the shop window of voetbalshop.nl Enschede. This shop window shows basic football equipment, mainly shoes and balls. We decided to use the shoes from the image to make a sort of penalty shoot-out game. We used the shoes for the goalie and for the shooter and we used another image for the ball to represent the ball from the image.

- **Usage and interactions**

*MousePressed*

You can press the mouse to shoot the ball towards the goal.

When this happens the shooter's shoe will move to the ball when he hits the ball the angle and speed of the ball will be calculated.

When the ball goes towards the goal there are 4 possibilities. You can either score when you get the ball past the goalkeeper, you get the prompt goal and the score will become plus one.

Another option is that the ball is saved by the keeper when it hits the keeper, then you will get plus one by the saved part. Then you have the possibility to hit the pole of the goal, when this happens the ball will also return and there will also be a plus one to saved on the scoreboard and the last option is that you miss the goal and then it will say that you missed and you will get plus one on the missed part of the scoreboard.



## Architecture

### Goal

In the Goal class, which is the main class, the setup draws the background. The draw calls all the different classmethods, which have to display different things. The Mousepressed method calls the penalty.Startgame Method, when a mouse button is pressed.

### Ball

The ball display method loads the ball image, and with the variables it allows rescaling. That's why there is an update class, where an if and else statement is set up, which scales the ball down till the ball Y reaches a value smaller than Y<240, where the ball stops rescaling, and keeps a constant size.

### Keeper

The display method draws the Keeper, and the method movementKeeper() makes the keeper move around the goal, and ensures that the keeper stays in the goal.

### Shoes

This method loads the shoes image, and positions it.

### Penalty

The boolean isPoleHit() checks if the ball hits the pole, then the shot is marked as saved and you get a new chance. The boolean isKeeperSave() checks if the ball hits the keeper, and if it is, the shot is marked as saved. Boolean isGoal() checks if the ball is in the goal, which resets the ball, and adds a +1 to score. Boolean isMiss() checks if ball is outside goal and resets and adds a +1 to misscounter. startGame() and resetGame(), are called to start or reset a game. showMessage() is called when a score, save or miss made, and displays text. If statements, together with the booleans, for the different conditions, and add the consequences, like add +1 to counter and resetGame(). kick=true is used to start the kicking animation of the shoe. Void penalty is where it all comes together. It initiates the run of the shoe to the ball, the ball's movement to the goal, the updating of the scoreboard and the text prompt and it updates the speed of the keeper if you scored.

### Scoreboard

Void display() draws the scoreboard, along with the text and a call to the counter method. addScore() adds +1 to the scorecounter, addMiss() adds +1 to the Misscounter, addSave() adds +1 to the Savecounter.

