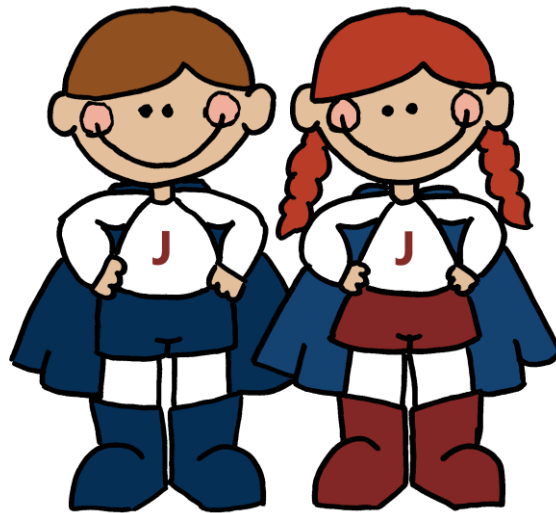


# How to get (more) kids to code

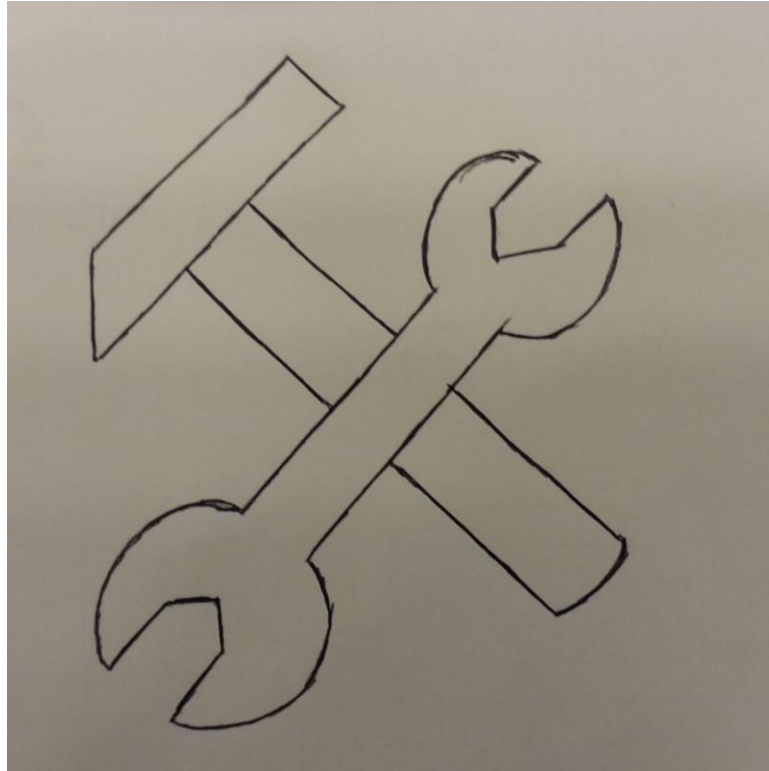


Linda van der Pal

# Intro

- Questions
- Who am I
- Tools
- Events

# Tools





- <http://drtechniko.com/>

The screenshot shows the "ROBOT LANGUAGE DICTIONARY" page. At the top left is the red robot head logo. To its right is the "DrTechniko" logo and the URL "www.facebook.com/drtechniko". Below the logo is the text "Dr kid name". The dictionary lists several commands with corresponding icons:

- LEFT: blue arrow pointing up and left
- RIGHT: blue arrow pointing up and right
- LEG FORWARD: blue arrow pointing up
- LEG BACKWARD: green arrow pointing down
- BODY ROTATE: red curved arrow
- GRAB: blue arrow pointing down
- DROP: blue arrow pointing up
- TALK "BIT BOT": text command

A red-bordered box at the bottom right contains the text "empty space for inventing new commands".

# SCRATCH



- <http://scratch.mit.edu/>

The screenshot shows the Scratch IDE interface. The top-left pane displays the sprite 'yellowfish' with its current position (x: 0, y: 0) and direction (180). Below this are tabs for 'Scripts', 'Costumes', and 'Sounds'. The 'Scripts' tab is active, showing four event-driven scripts:

- when up arrow key pressed: point in direction 0, move 10 steps
- when down arrow key pressed: point in direction 180, move 10 steps
- when left arrow key pressed: point in direction -90, move 10 steps
- when right arrow key pressed: point in direction 90, move 10 steps

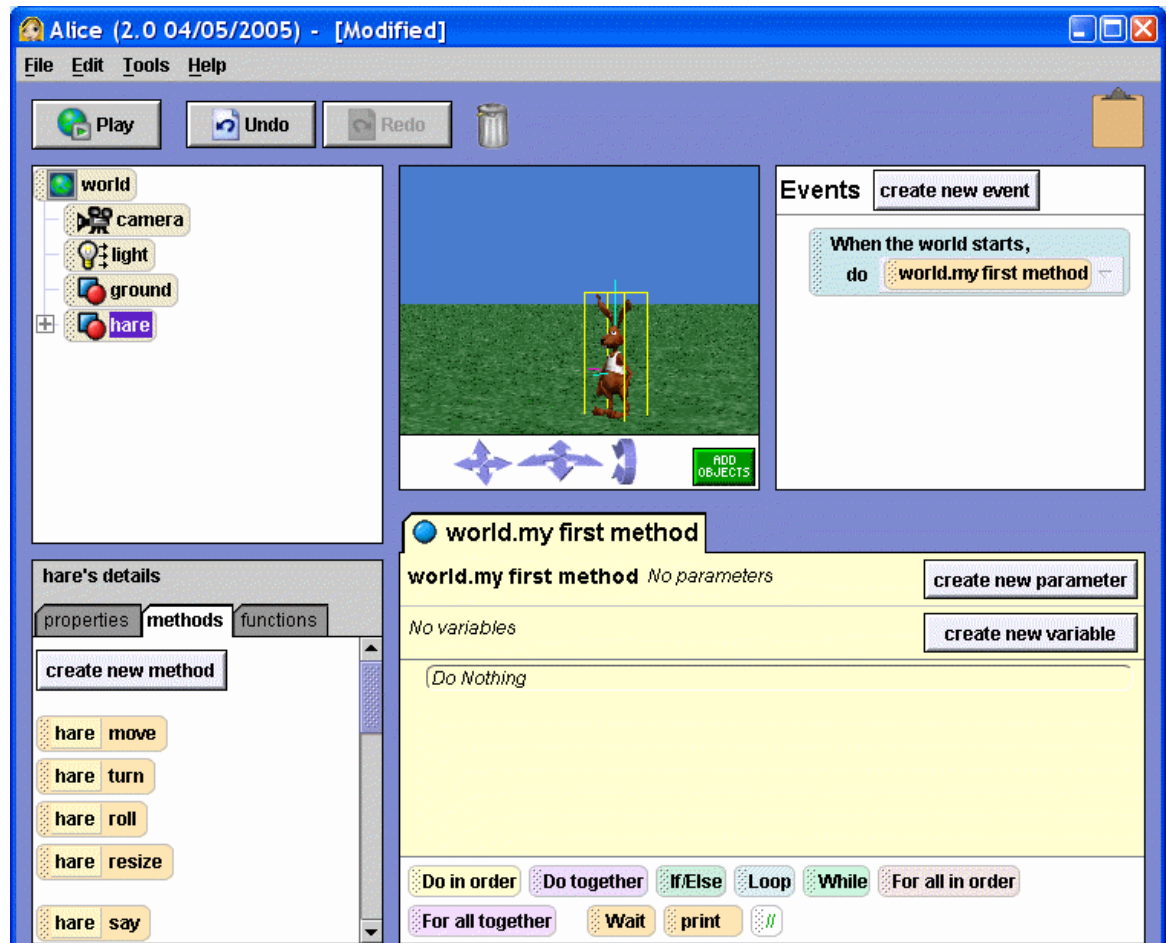
The top-right pane shows the stage titled 'week7demogame1' with a blue background, a yellow fish sprite, and a sandy ocean floor with coral and seaweed. The bottom-right pane shows the 'New sprite' button and a list of sprites, including 'yellowfi...' and 'Stage'.

# Alice



Carnegie  
Mellon  
University

- <http://www.alice.org>



# Greenfoot



- <http://www.greenfoot.org>

Greenfoot wombat

Project Edit Controls Help

WombatWorld

Project Information

World classes

- World
- WombatWorld

Actor classes

- Actor
- Leaf
- Wombat
- Rock

Act Run Speed: [slider] Compile All

ScoreBoard

Compile Undo Cut Copy Paste Find... Close Source Code

```
import greenfoot.*;
import java.awt.Color;
import java.awt.Font;
import java.util.Calendar;

public class ScoreBoard extends Actor {
    public static final float fontSize = 12.0f;
    public static final int width = 100;
    public static final int height = 40;

    public ScoreBoard()
    {
    }

    public ScoreBoard(String msg)
    {
        show(msg);
    }

    public void show(String msg)
    {
        GreenfootImage image = new GreenfootImage(width, height);

        image.setColor(new Color(255, 255, 255, 128));
        image.fillRect(0, 0, width, height);
        image.setColor(new Color(0, 0, 0, 128));
        image.fillRect(5, 5, width - 10, height - 10);
        Font font = image.getFont();
        font = font.deriveFont(fontSize);
        image.setFont(font);
        image.setColor(Color.WHITE);
    }
}
```

World classes

- World
- BubbleWorld

Actor classes

- Actor
- ScoreBoard
- SmoothActor
- Ball
- Cannon
- StickEffect

Other classes

- Cell
- Map

saved Compile

# BlueJ



- <http://bluej.org>

square1 : Square

private int size	<input type="text" value="30"/>	Inspect Get
private int xPosition	<input type="text" value="60"/>	
private int yPosition	<input type="text" value="50"/>	
private String color	<input type="text" value="red"/>	
private boolean isVisible	<input type="text" value="false"/>	

Show static fields      Close

```
Square - shapes
Class Edit Tools Options
Compile Undo Cut Copy Paste Fin...

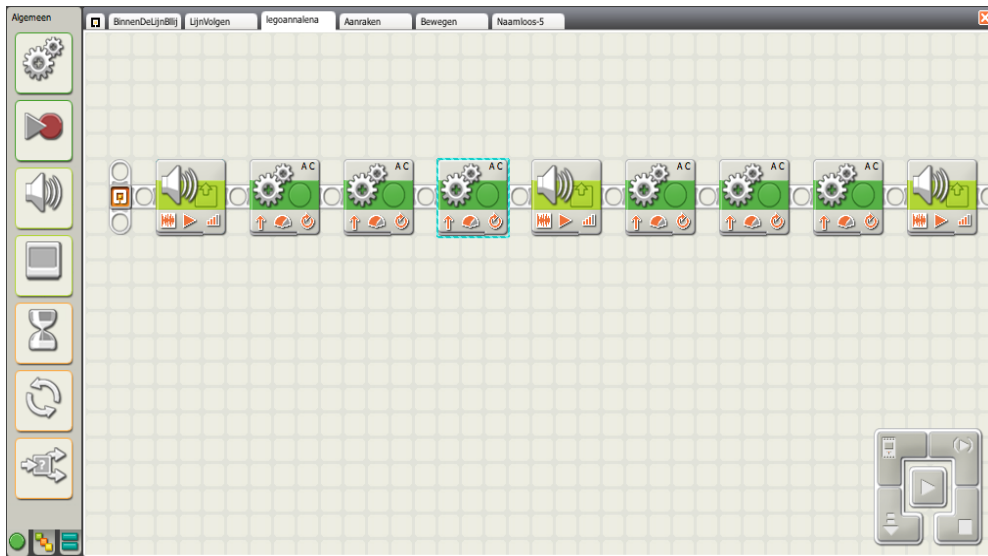
1 import java.awt.*;
2
3 /**
4  * A square that can be manipulated and th
5  *
6  * @author Michael Kolling and David J. B
7  * @version 2008.03.30
8  */
9
10 public class Square
11 {
12     private int size;
13     private int xPosition;
14     private int yPosition;
15     private String color;
16     private boolean isVisible;
17
18     /**
19      * Create a new square at default posi
20      */
21     public Square()
22     {
23         size = 30;
24         xPosition = 60;
25         yPosition = 50;
26         color = "red";
27         isVisible = false;
28     }
29
30 }
```

saved



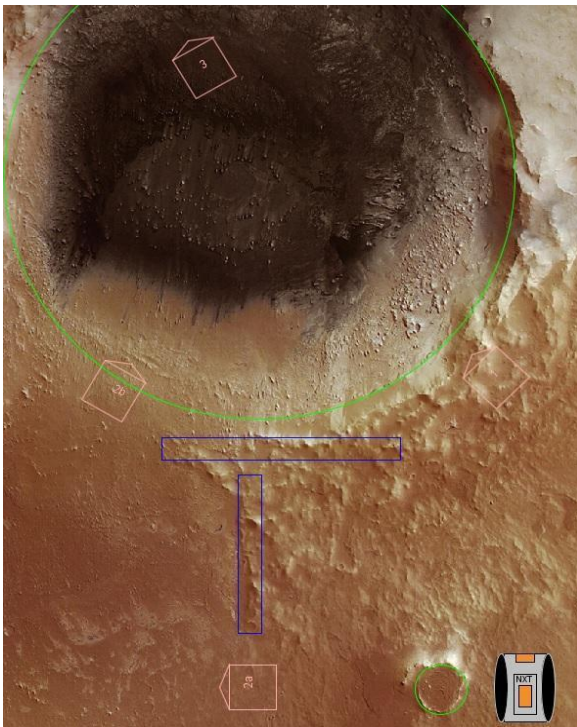
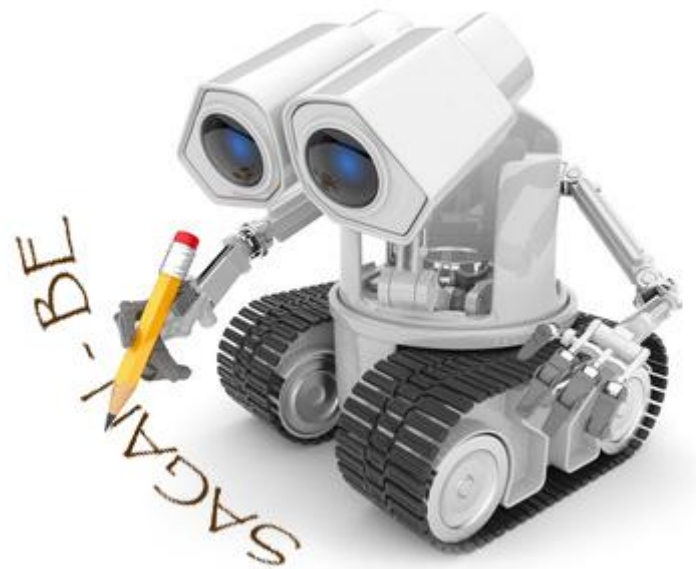


- <http://mindstorms.lego.com>



# Sagan

- <http://sagan.be/>

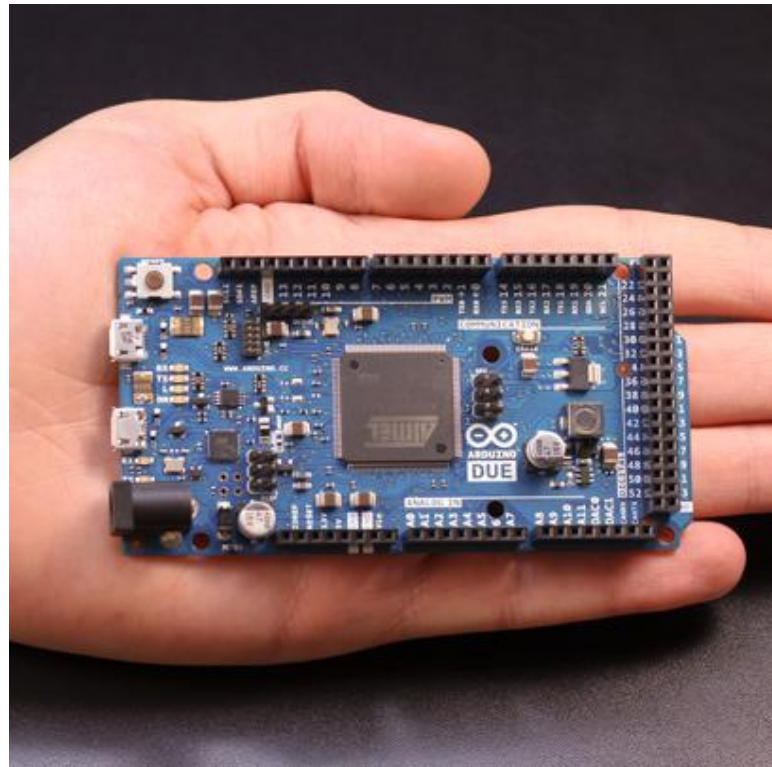


```
# to checkpoint 1
FORWARD 100
TURNLEFT 45
FORWARD 800
TURNRIGHT 45
FORWARD 60
WAIT 5
SENDSIGNAL
# to checkpoint 2
BACKWARD 210
TURNRIGHT 90
FORWARD 1000
TURNLEFT 45
FORWARD 700
TURNLEFT 60
FORWARD 300
TURNLEFT 90
FORWARD 220
WAIT 5
SENDSIGNAL
# to checkpoint 3
BACKWARD 120
TURNRIGHT 135
```

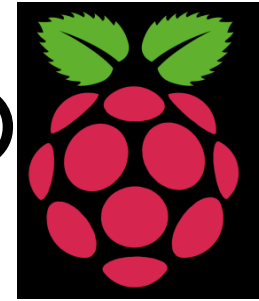
# Arduino



- <http://www.arduino.cc/>



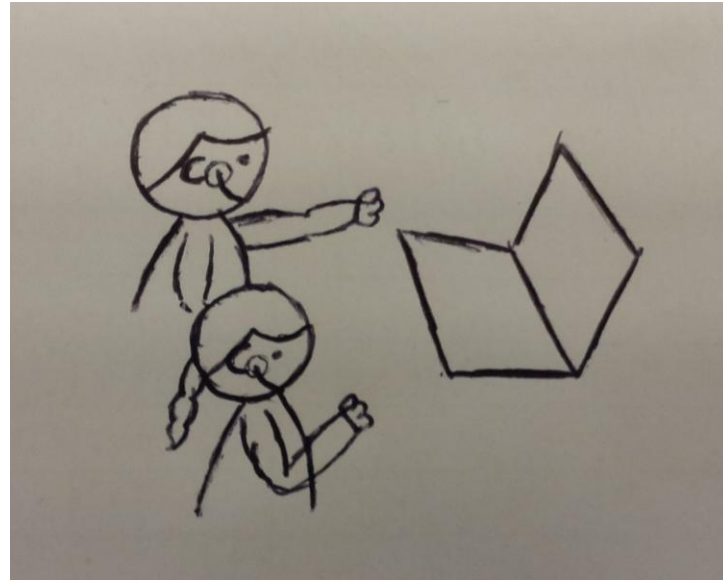
# Raspberry Pi®



- <http://www.raspberrypi.org/>



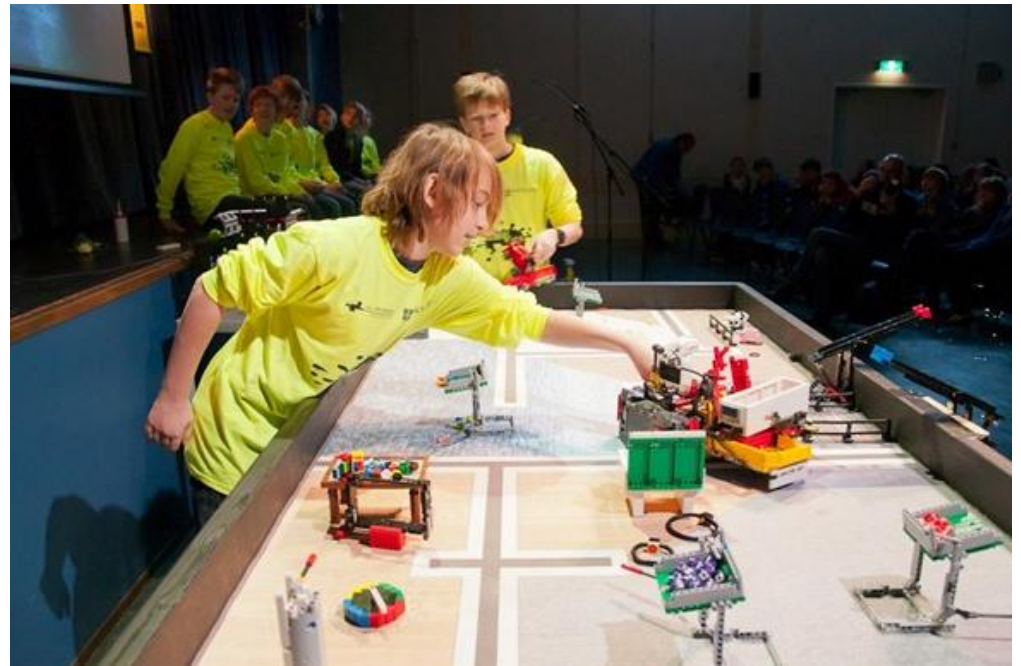
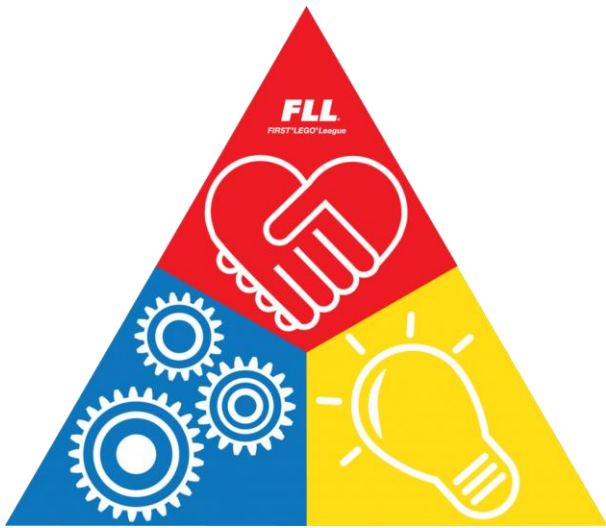
# Events for kids



# FIRST LEGO League



- <http://firstlegoleague.org/>



The Robot Game and Project are what teams do. The FLL Core Values are how they do it.

# Maker Faire®



- <http://makerfaire.com/>
- Make magazine
- Maker faire
- Make projects
- Make kits



- Talent watcher
- Mirror image
- Speeddating
- Class
- Girlsday
- <http://vhto.nl/>







- <http://www.devoxx.com/display/4KIDS>

DEVOXX 4KIDS

26-10-2013  
IN DE CABFAB, DEN HAAG

## BRENG JIJ ZE TOT LEVEN?

Tijdens Devoxx4kids leer je Lego Robots te besturen, 2D-spelletjes te maken en Minecraft aan te passen zoals jij dat wilt!

KINDREN (10-14 JAAR) KUNNEN ZICH AANMELDEN (E10-1) VIA:  
[HTTP://WWW.DEVOXX.COM/DISPLAY/4KIDSNL](http://www.devoxx.com/display/4KIDSNL)

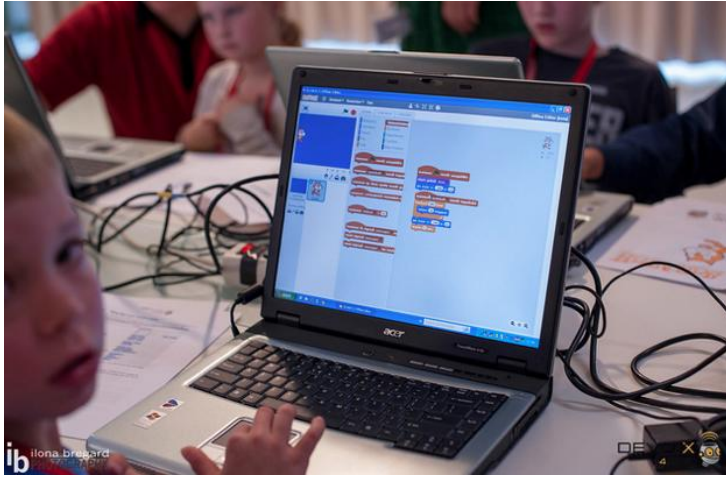
Worth IT Caballero Fabriek 42 jûg infoSupport

gastheer catering & events babana CRYALCUE LUNATECH PUPUS

Devoxx4Kids™ is een gezamenlijk initiatief van de bedrijven Caballero Fabriek, jûg, infoSupport, Worth IT, gastero, catering & events, babana, CRYALCUE, LUNATECH, PUPUS en de Universiteit van Amsterdam.



## Scratch



## RaspberryPi: Mary had a little Lambda



## Minecraft mods



## Lego Mindstorms





video: <http://vimeo.com/77924199>