Juan García-Albea Ruiz

London SE15

07944468217

juangalbea@gmail.com

2D Models

Spinning Circles

The work consists of five circles; the largest one stays still, while the other four move. Each circle moves in circles inside the larger one, which contains it. It touches the border of the other larger circle but it does not cross it. Each next circle moves in the opposite way to the previous one. The smaller the circle the faster it moves.

To create a movement I used trigonometric functions - sine and cosine. The movement performed by one circle reflects in the movement of the other, which makes the perfect motion.
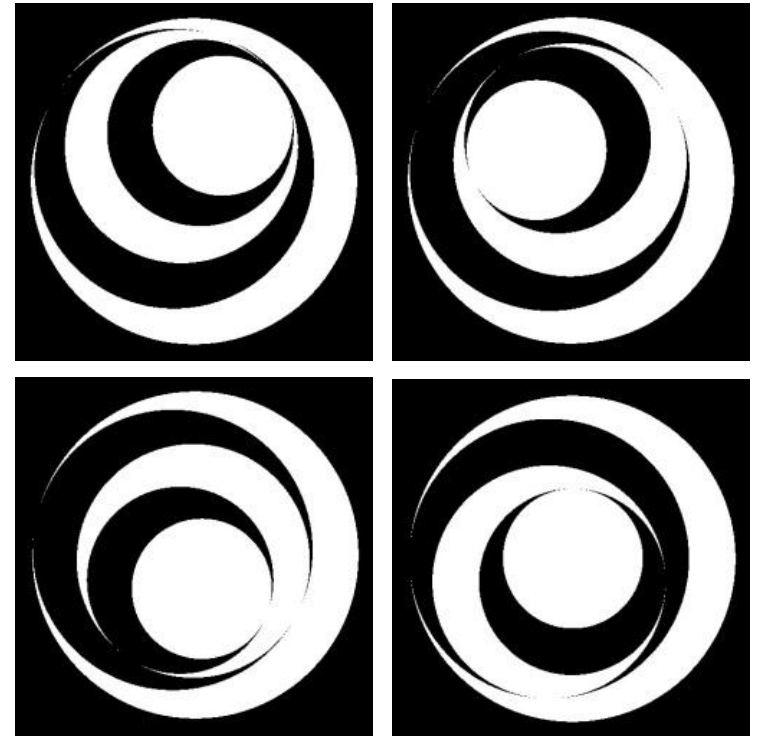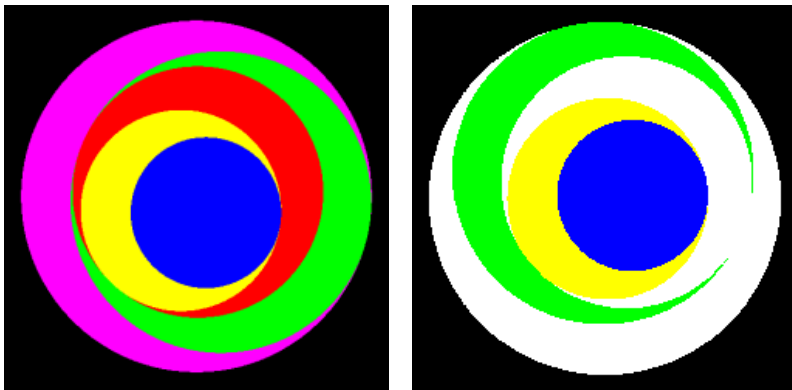
These images show four different positions of the spinning circles, which is an application I designed.

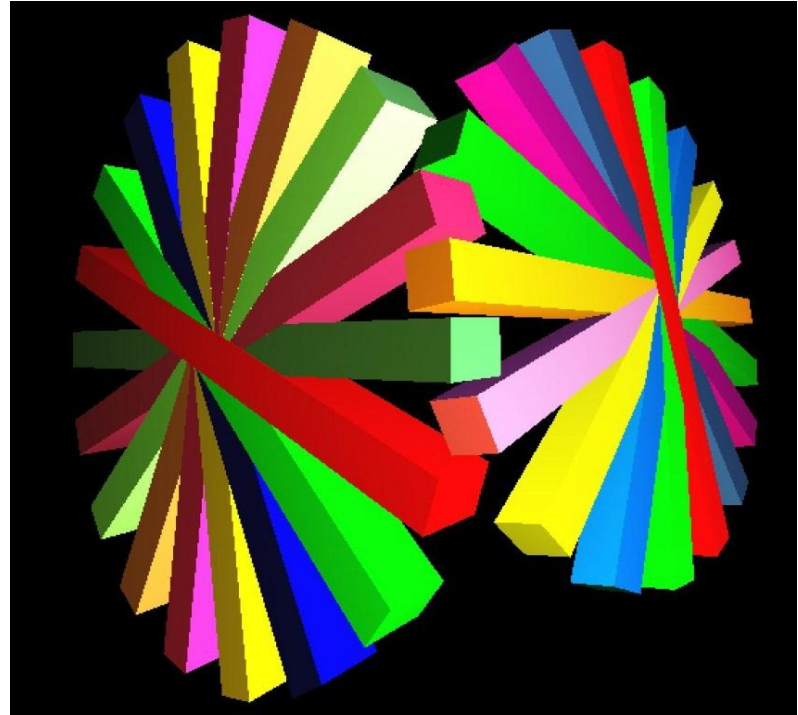The circles can appear in different colours. In this example I used primaries and secondaries.

3D Models

Gear

Legs

The legs walk over a flat surface. By moving the control panel to the left and to the right, legs can be moved across the surface. They can walk, run, turn and jump.
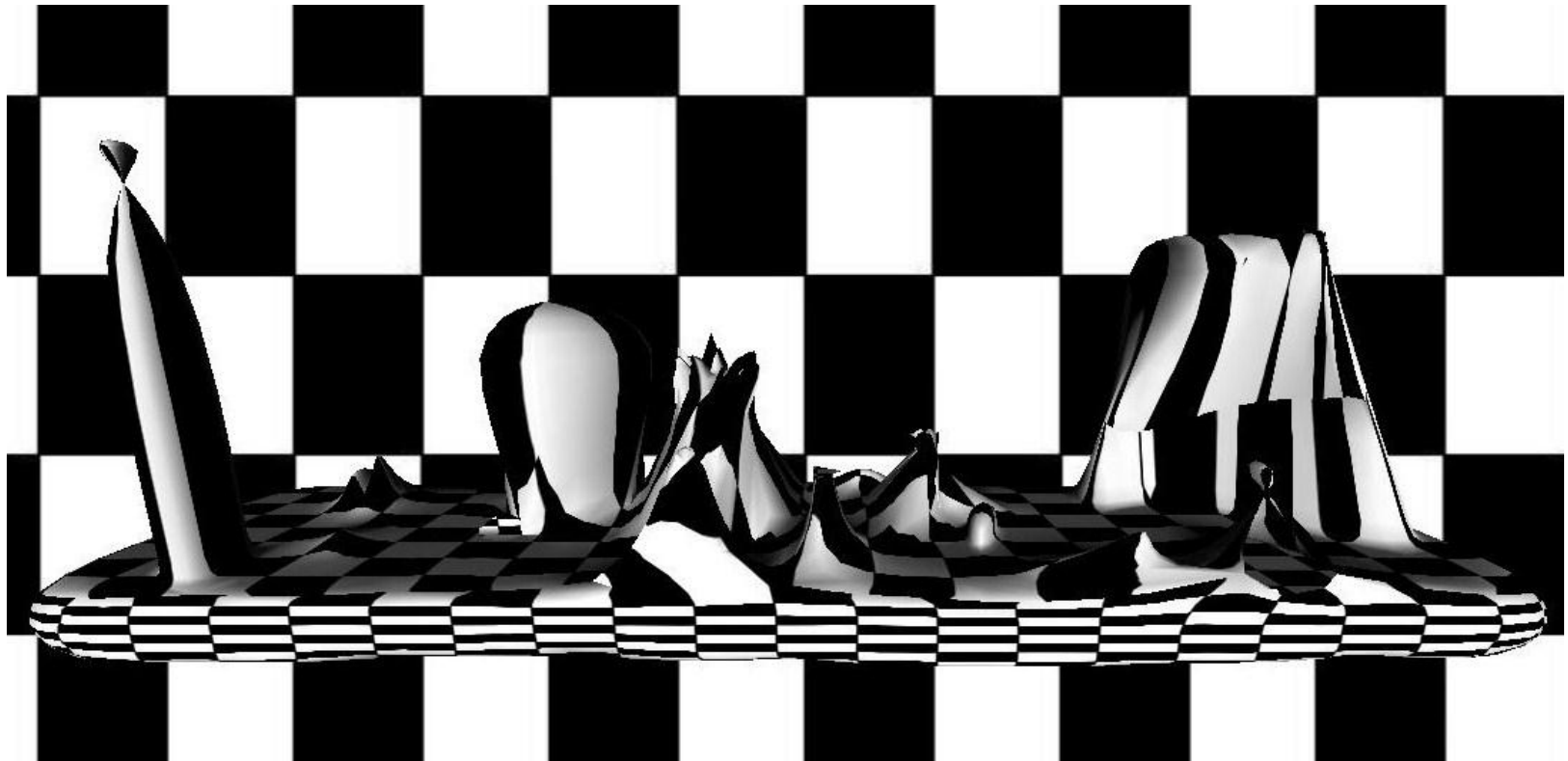
The Gear is formed by two cogwheels, both are composed of 9 long cuboids, rotating at 20 degrees from each other.

The 3 dimensional cogwheels rotate with the same speed, perfectly connecting in space. By pushing the button the wheels start to bounce and then come back to the initial position.

Chess stage

Chess stage is a 3D model with constantly moving black and white chessboard texture of ´the stage´.
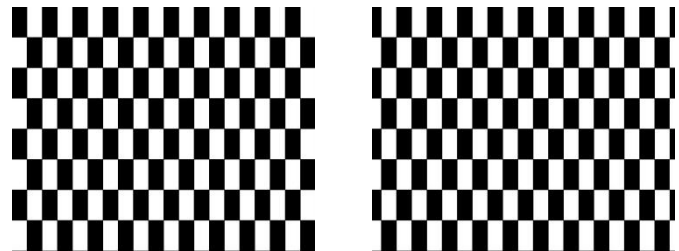
VIDEO GAME

I designed and programmed a video game

Idea

To create a platform game in 3D with movements in 2D. Why? Because 3D makes the game visually more attractive with the possibility of camera movements, and 2D makes it more playable, funny and easy to control.

This platform consists of a character figure, which we can move forwards and backwards in a nonlinear environment. The character follows the path I designed. It can jump, walk and run avoiding different obstacles that appear on its way in a form of spiky balls, rollers etc.

Sketches
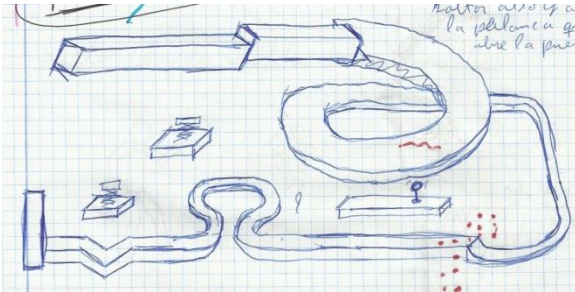
The idea is to move the character only forwards and backwards. It moves along the stage, turning when the pathway turns.
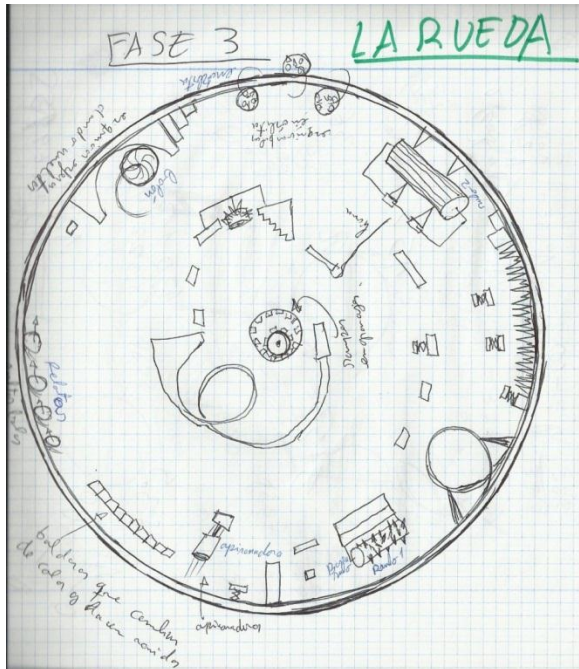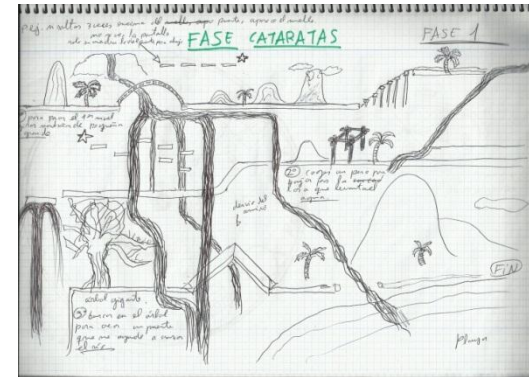
The main stage is called "The Wheel", It's formed by a giant wheel . The large size of it makes it appear flat in relation to the small figure of the character.
The character moves along the wheel and overcomes obstacles

These are sketches of two different stages of the game "The Waterfalls" and "The City". The idea was to create different environments, one natural and bright and the other one dark and mysterious

3D Modelling
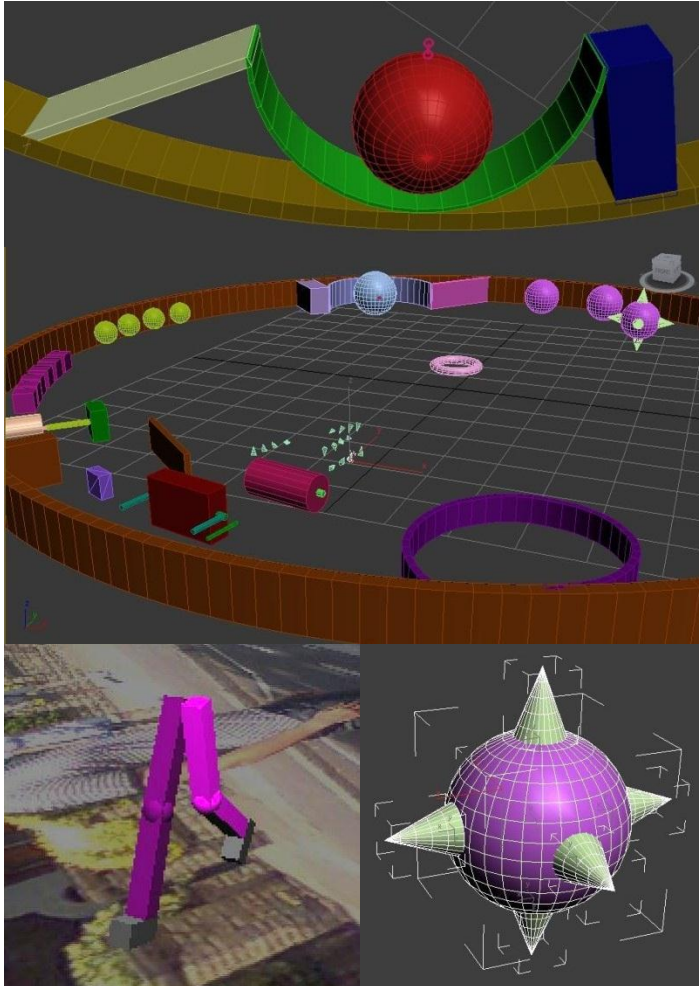
I created these objects with "3Ds Max", which enables to export 3D models to the programming language ("Pure Data") and makes the texture coordinates understood by the language.

Exported objects are separated into packets, each containing elements that have the same motion.

Programming patches

PD (Pure Data): Visual programming language. It creates objects, import the 3D models and create new Basics 3D models (cuboids, spheres) with PD.

I created the body of the character with PD. The different parts of the body were processed, translated rotated and scaled.
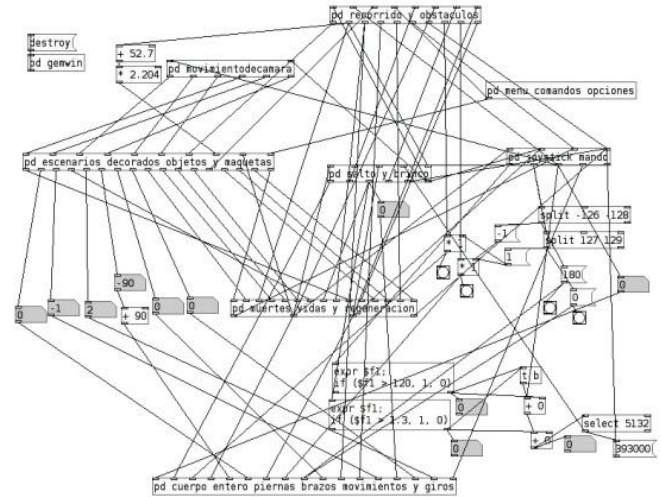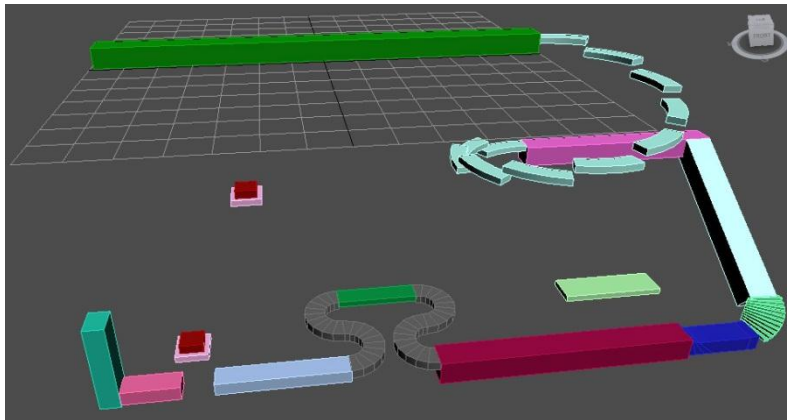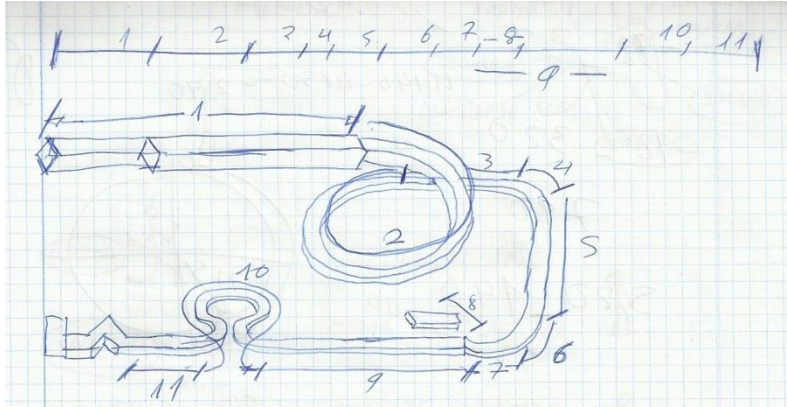

This is the main patch, which interconnects all the patches (the movement, the stages, the body, the camera, the joystick interface, etc.) with every input and output.
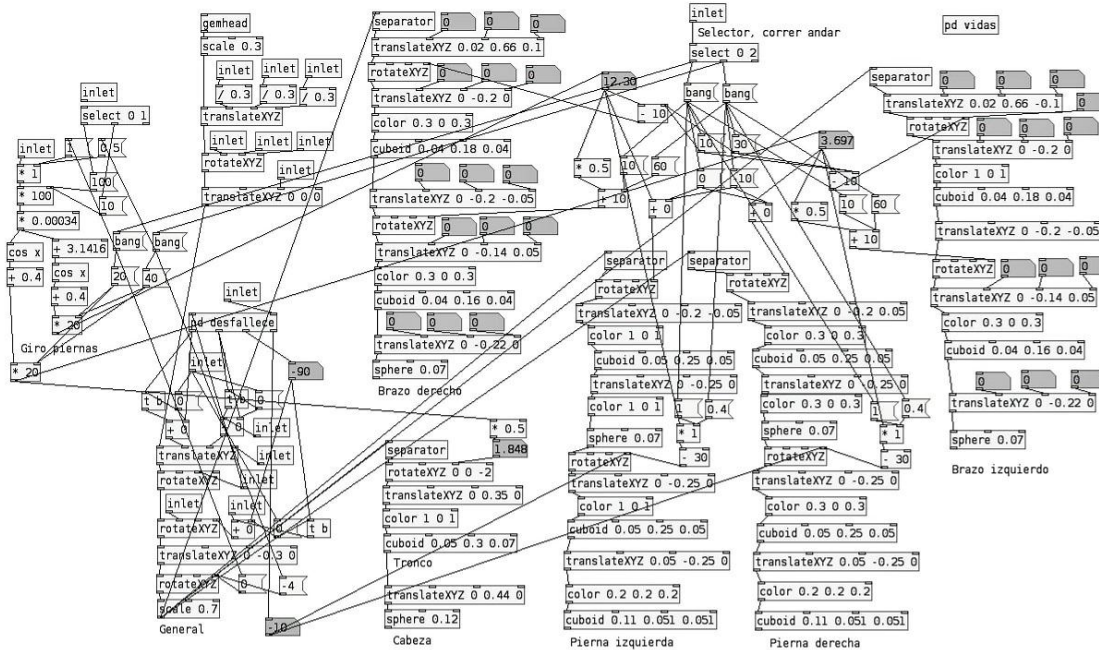
This is the patch responsible for the body of the character , every part has its own movement and is interconnected with the group that it belongs to.

Process

Final design

Example from the ´wheel stage´ , where the character moves among the obstacles .