

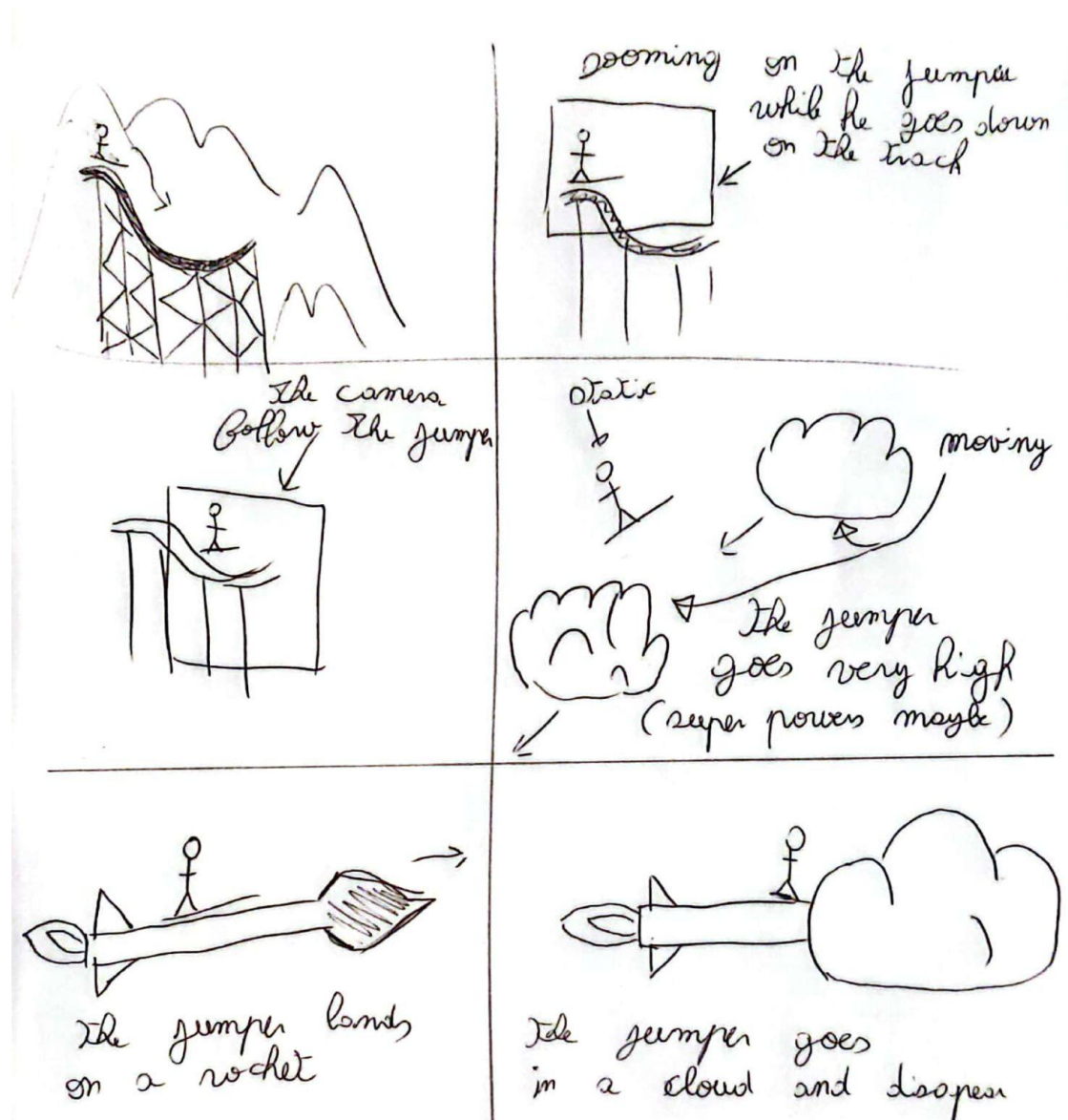
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# Computer graphics assessment

## OVERVIEW

The project consists of making an animation

## STORYBOARD



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## Step one : overview of the set

This is the first part of the animation. The goal is to give the viewer an global overview of the set. This avoids the viewer to be lost when the “camera view” will move.

## Step two : The snow must go on !

On this step, things start to get interesting. The cameraman zooms in on the jumper while he slowly approaches the slope. The attention of the viewer is now redirected and focused on Jack the jumper.

## Step three: The jumping Jack

Jack goes down the slope and accelerates a bit. The cameraman does not zoom anymore but the frame of the camera is moved towards the lowest part of the slope.

After reaching the lowest part of the slope Jack decelerates before going up in the air thanks to his hyper-technologic skis (or superpower we can't know for sure).

## Step four: A new perspective

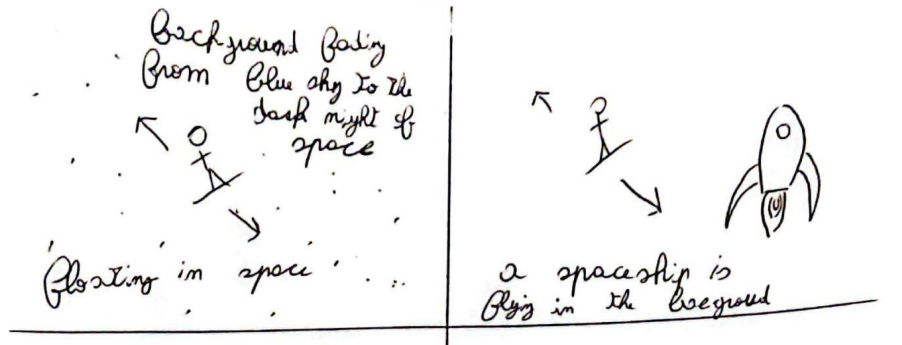
Now that Jack is in the air we can use a little trick to allow the scene to be more dynamic. Instead of moving the sprite of Jack we will create elements that are moving creating the illusion that the camera is focused on Jack while preserving the motion.

## Step five: Not today Mr.Poutine

For this step and the next plan was for Jack to ride a missile passing by. Due to the controversial nature of this part we decided to change the story a bit. Instead of that Jack will go higher and higher, definitely breaking the physics and provoking Newton. He will eventually reach space and then stars will start to shine while the sky is getting darker.

## Step six: Ballistic is still here

We decided to include a rocket anyway. This time the rocket will not land on the wrong planet.



## Storyboard translation

### The set

First of all we had to draw the background sky. This sky is represented by a rectangle that progressively goes from light blue to black when Jack leaves the atmosphere.

Then are drawn clouds and mountains interpolating a few of them.

Because the slope is represented by a path defined with absolute coordinate we used a viewBox to encapsulate it along with Jack the jumper. This allowed us to resize the slope while not breaking the motion of Jack.

### The motion of jack

The motion of Jack is divided in two main parts. The first one consists of him going down and then going back up until he reaches the only cloud in the foreground and goes behind.

Due to some issue with the viewBox the first Jack sprite can't go any further. We fixed that by hacking a cloud out. We move another Jack to be a little bit higher than this cloud.

In order to keep the object we need to make all other elements move in the opposite direction of Jack. The sprite of Jack is now static.

### The new perspective

When it is the set that is moving instead of Jack we need to use a svg balise in order to have easier coordinates to work with.

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In order to generate stars we wrote a little Python Scripts.

```
import random

string = "<circle cx=\"{}\" cy=\"{}\" r=\"{}\" fill=\"white\"/>"
for i in range(60):
    print(
        string.format(
            random.randint(0,400),
            random.randint(0,300),
            random.choice([0.5, 0.2, 0.3, 0.7])))
```

## Critical analysis

### What we think are our weak points

First of all, I think that our set is not very detailed. Due to our struggle with svg we lacked time for small details which ended creating a sense of emptiness.

We think that the motion of Jack is not very fluid. The transition from the slope to the air creates a little stutter effect.

Finally the speed of Jack is not really convincing especially when he goes down the slope. We tried a few times with the technique presented during lectures but we ended up tinkering it by hand until we were satisfied with the result. This was a time consuming and frustrating part of the process.

### Where we think we succeeded

We think that our set, although not very detailed, is decent and coherent. For instance we think that our stars realistics along with the transition to space.

We think that our spaceship is convincing.