UNIVERSITY OF CRETE

DEPARTMENT OF COMPUTER SCIENCE

Multimedia Technology

Spring 2018

4th assignment

In this assignment you are requested to create an animation using HTML5 Canvas and JavaScript. The animation should simulate the view outside a train window which is moving. In the animation you'll have ground as well as sky. On the ground there will be two rows of trees, one closer to the window and one further away. Therefore they will seem to move with different speeds. With the eyes of the train passenger-observer the trees closer to the window will seem to pass by quicker than the trees further away. In the sky there will be clouds which will pass by at ever smaller speed, because they have the greatest distance from the observer's eyes. The distances between the trees are constant and the tree rows have no ending.

The Canvas should be 1000 pixels wide and 480 pixels high. The tree row further away from the window should start at pixel 115 vertically and the tree distance should be 216 pixels. The apparent speed of this tree row should be 0.05 pixel/msec. The tree row closer to the window should start at pixel 215 vertically and the tree distance should be 300 pixels. The apparent speed of this tree row should be 0.1 pixel/msec. The clouds should start at pixel 0 vertically and their apparent speed should be 0.01 pixel/msec. The frame rate of your animation should be 50 fps.

Use the images in file

http://www.csd.uoc.gr/~hy474/data/ask_18-04_files.rar

for your animation. In the same file you will also find an example of the scene composition in image example_scene.jpg. Considering that the train is moving towards the left you should program the movement of the tree rows and clouds towards the right side of the canvas using the given speeds.

Useful JavaScript function: requestAnimationFrame

Bonus 1 (+15%):

Use the image plane.png (found in the rar file) and add the following to your animation: at random time intervals the airplane is showing up from the right in the horizon flying parallel to the train, but with higher speed of course, for a small time. Then, it pitches the nose slightly up and gains height eventually disappearing from the canvas over the top.

Bonus 2 (up to +25% according to your implementation):

Enrich your animation with anything you like (e.g. the sound of the moving train, flocks of birds passing by, a sunset which makes everything in the scene appear darker, etc.).