Web Applications Development: Javascript

2 II 2018

Allotted time: 90 minutes. You have to send the solution *before* 11:50. Points total: 25

1 Sending the solution

Pack all (`.js` i `.css`) files into zip and name it by replacing login with your lab login. login.zip.

Send email:

`To:` jan.karwowski@mini.pw.edu.pl
`Subject: [WebApp] JS3 2017`
`Attachments:` login.zip
Empty message body.

2 The task: celebrity circulation simulation

You have to write a simple groundhog hunting games. A player tries to shot at groundhogs running around.

Page is divided into two areas:

- left, 90% width, green – groundhog area
- right, red, the area with control elements

Player has to shoot at (click on) groundhogs which run in green area. Unfortunately the player will be disappointed. After being hit, the groundhog transforms into rainbow and becomes invincible!!

There is a recording of example play attached to the task.

2.1 Common requirements

You have to send only your `.css` and `.js` files (no html, no jquery). Your solution will be checked against the original timers.html and has to work with it. **If your solution will not work with the original html, it will be rejected.**

Creation of global variables and functions in javascript code is strictly forbidden. **Use of global variables is strictly forbidden.**

2.2 Detailed requirements

1. 2 points The page is divided into two colored areas
2. 2 points Control elements according to figure 1 are created after the page is loaded.
3. 4 points *Add groundhog* button creates new groundhog and adds it to green area. The groundhog is of square shape. Its size is directly proportional to value of *speed* input. On a photo of the groundhog there is text providing its speed value. Initial location of the groundhog is random within the green area. Example groundhogs are presented in figure 2.
4. 2 points Each groundhog moves in bottom-right directions. Move occurs every 2 seconds. Length of each move (jump) equals *speed*% of green area width and height respectively. Change of *speed* input after the groundhog is created does not affect its speed.
5. 2 points *Game step duration* changes pause between subsequent move steps to value provided $\times 0.1s$.
6. 2 points After putting mouse cursor over the groundhog (not clicking) groundhog shifts its move direction in x axis and starts moving bottom-left (and bottom-right on subsequent change).

Rysunek 1: Initial state

7. 2 points Routes of groundhogs are wrapped – when it leaves green area it appears on the opposite edge.
8. 2 points After clicking a groundhog becomes red.
9. 3 points Invincibility works: groundhog is red only for 2 seconds after being hit, and then becomes a rainbow.
10. 2 points Subsequent clicks on groundhog-rainbow have no effect.
11. 2 points In the red area, at the bottom, there is a counter with number of groundhogs transformed into rainbows.

Rysunek 2: Groundhogs. Two of them.