

Assignment 5

Q1. (45 marks) We continue where we left off in Assignment 4. In assignment 5, we complete the game by adding a Fu-Go balloon, which in WWII were used to drop bombs. The objective of the game is for the player to use the cannon to hit the dropping Fu-Go balloons before the balloon reaches the ground. The requirements and rules are described next.

Requirements:

1. All the requirements of Assignment 4 shall still hold.
2. The balloon drops from the top of the screen, from a random position. This position shall be at least the length of the cannon away from the left edge of the screen, so that the balloon isn't out of reach of a most-left positioned cannon. In other words, the balloon shall drop from a position that a cannon on the extreme left-hand side is able to hit it.
3. The balloon shall drop at a rate of 2 pixels per 10 ms.
4. The player will try to shoot at the balloon. If the cannonball hits the imaginary rectangle within which the balloon is located, it shall be considered a hit.
5. In case of a hit, the balloon shall not continue falling. Instead, the explosion image (provided) shall be displayed while the explosion sound (provided) shall be played, the balloon shall disappear, and the score shall be increased by 1.
6. After a hit, the game shall continue by another balloon dropping from a random position, as described above.
7. If the bottom part of a balloon reaches the bottom of the screen, the balloon shall explode, visually and audibly the same as a hit, and the "Lives left" score shall be decreased by 1.
8. If there are zero lives remaining, the message "game over" shall be displayed instead of "Lives left", and the game shall stop.
9. The initial "Lives left" shall be 5.
10. If the window is resized while the balloon is dropping, requirement 7 shall hold with the new bottom position of the window.
11. There shall be only one balloon dropping. While it's dropping, no other balloons shall drop.

Rules:

1. The game must be coded with HTML, embedded CSS, and embedded and/or external JavaScript.
2. No frameworks, templates, or libraries can be used. You must develop everything from scratch yourself.
3. Use the accompanying image and sound files.
4. For your solution, upload one zip file containing everything.