COSC 231 Project #4 Mark-It Game

Use HTML, CSS and Javascript to create a one person game called 'Mark-It'.

The playing surface is 2D. There is an optional border around the surface, however the positions on the playing surface are not bordered.

Approximately 10% of the playing surface will have obstacles. You may lay the obstacles down at random locations or you may paint the surface with obstacles.

There is a sprite (avatar) that is initially placed at a random location on the playing surface. The sprite may not occupy the same location as an obstacle. There is no penalty for attempting to move the sprite onto an obstacle.

The sprite is moved under the player control using keystroke. The sprite can move up, down, left, right (only those four directions). You can use the arrow keys and/or `wasd` and/or `ijkl`:

Up:	`w, i,` ↑
Down:	`s, k,` ↓
Left:	`a, j,` ←
Right:	`f, l,` →

The sprite leaves a trail on the playing surface to show where he has been. The trail is your choice of color (different from background or obstacles).

There are also meteorite strikes (or volcanic eruptions) at random times and random locations. The craters must be indicated on the playing surface. You should twiddle the frequency of meteorite hits so that the game is a little challenging. Approximately one strike every (approximately) 15 seconds seems like a good initial guess. You must use a timer for the explosions. The time of the actual catastrophe is random.

Game is over when the sprite has visited all possible locations or the sprite falls into a crater.

The score is the number of locations the sprite has successfully visited (i.e., not obstacles). If the sprite path (trail) is destroyed by explosion, that does not affect the score.

Rules of motion:

Sprite cannot move across a border of the playing surface (no wrap-around).

Sprite cannot move onto obstacle.

Sprite can move onto crater, but game is over.

You need to display a running tally of the current game score during the entire game play.

At the end of play, you need to display the game score. You also need to retrieve the current high score from a cookie and display that. If the current game score is higher than the high score, then you will need to replace the cookie with the new value.

Turn in:

- Hard copy of all source code (not the cookie library you are using)
- Screen shot of initial playing surface (including obstacles and sprite)
- Screen shot of game end (including final score and high score)

Grade based on:

• Meeting specs	80%
• Following standards	10%
• Elegance of code	10% (no extra or opaque code)

You will need to demo with walk-through.