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COSC 414 Computer Graphics

Assignment 3

**Screenshots demonstrating requirements:**

**[4 point]**

1. Bacteria grow on the surface of the sphere starting at an arbitrary spot on the surface and growing out uniformly in all directions from that spot at a speed determined by the game.
2. The bacteria appear as a colored circular patch on the surface of the sphere.

A grey circle with pink dots

Description automatically generatedA screenshot of a computer screen

Description automatically generated

**Above:** Start of game bacteria size, as colored circular patch on surface of the sphere, growing out uniformly in all directions in fixed spot

**[2 point]**

1. The game can randomly generate up to a fixed number (say 10) of different bacteria (each with a different color).

A colorful circle with black background

Description automatically generatedA red circle with black background

Description automatically generated

**Above:** 10 Different Color Bacteria

var numOfBacteria = Math.floor(Math.random() \* (8)) + 3; // Determining number of bacteria (Line 192)

**Above:** Random number of bacteria generation (Between 3 and 10)

**[2 point]**

1. The player needs to eradicate the bacteria by placing the mouse over the bacteria and hitting a button.
2. The effect of the poison administered is to immediately remove the poisoned bacteria.

A grey planet with colorful dots

Description automatically generatedA grey planet with purple and blue circles

Description automatically generated

**Figure 1.1 Figure 1.2**

**Above:** Poison being clicked on by player with mouse on cyan bacteria, immediately removing it. (For Reference – Figures 1.1 and 1.2)

**[1 point]**

1. The game gains points through the delays in the user responding and by any specific bacteria reaching a threshold (for example, a diameter of a 30-degree arc on a great circle of the sphere).

A colorful circle with black background

Description automatically generatedA screenshot of a computer screen

Description automatically generated

**Above:** Score rewarded more to bigger pink bacteria being eradicated (Compare with Figures 1.1 and 1.2 where a smaller bacteria doesn’t reward as high of a score)

**[1 point]**

1. The player wins if all bacteria are poisoned before any two different bacteria reach the threshold mentioned above.

A grey circle with white dots

Description automatically generatedA colorful circle with black background

Description automatically generated

**Above:** Winning and losing based on bacteria left when they reach max threshold