SOC MIDTERM REPORT 2025

INTERACTIVE 3D WEB EXPERIENCE WITH THREE.js

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I started with basic knowledge of HTML, but over the last 4 weeks, I have:

Before starting three.js, it is necessary that we have basic knowledge of CSS, HTML, and JavaScript, but I knew only HTML basics for those basic things

The mentor provides us with 4 weeks of materials (YouTube videos).

- list of things which I learn in 4 weeks:

I Already Knew in HTML :

1. Basic structure of an HTML document (<!DOCTYPE html>, <html>, <head>, <body>).
2. Using common tags: <h1> to <h6>, <p>, <a>, <img>, , .
3. Lists: <ul>, <ol>, <li>.
4. Forms and inputs: <form>, <input>, <label>, <button>.
5. Embedding images and links.
6. Using
, <hr>, and semantic tags like , , etc.

What I Improved :

a.) HTML

1. Better use of semantic HTML: <header>, <main>, <footer>, <section>, <article>.
2. Linking JavaScript and CSS files properly with <script> and <link> tags.
3. Accessibility basics: alt attributes.

What I learn :

1.) CSS :

1. Basic styling using color, background-color, font-size, padding, margin, border.
2. Text alignment and font styling: text-align, font-family, font-weight.
3. Using classes and IDs for styling elements.
4. Box model understanding: width, height, border, padding, margin.
5. Applying styles using internal (<style>) or external CSS (style.css).
6. Positioning elements using position: absolute, relative, fixed, and sticky.
7. Using Flexbox for layout: Aligning items with justify-content, align-items, and flex-direction.
8. Introduction to CSS Grid for advanced layouts.
9. Adding transitions and animations using transition, @keyframes, and animation.
10. Applying hover effects and interactive states (: hover, : active, : focus).
11. Using media queries for responsive design.
12. Improved organization of CSS code using modular class structures.
13. Learning about z-index, overflow, and layering elements properly.
14. Combining multiple properties using shorthand syntax (e.g., margin: 10px 20px;).

2. JavaScript:

1. Basic syntax: variables (let, const, var), data types, and expressions.
2. Conditional statements: if, else, switch.
3. Loops: for, while, do...while.
4. Writing and calling functions.
5. Arrays and basic operations (push, pop, length).

6. Basic DOM manipulation: getElementById, querySelector.

7. Using console.log() for debugging.
8. Advanced DOM manipulation: Dynamically creating and modifying elements, Event handling (addEventListener) for clicks, hover, etc.
9. Using arrow functions and understanding this keyword
10. Introduction to objects and accessing properties/methods
11. Working with JSON and storing structured data

(I done my 4 weeks learning with project using all three things: CSS, HTML, and JavaScript. The project is a Calculator. I gave the code in this repository)