Innoging Medical

Innoging Home Assignment

Technology Stack

1. Please use the following technologies to develop the home assignment:

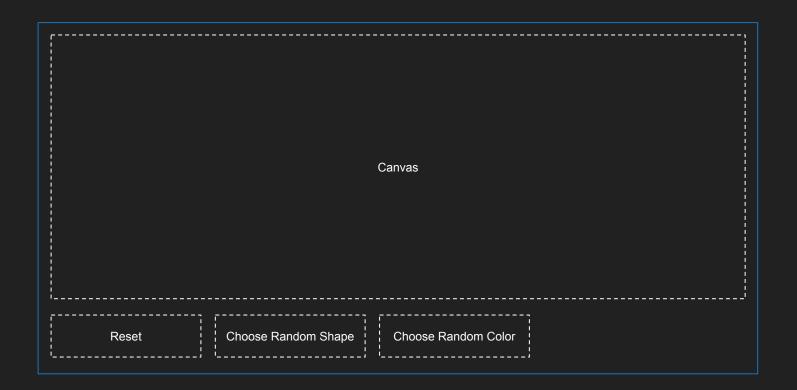   Front-End: Plain JS (without Typescript), Webpack, React, Material UI, and HTML Canvas.

   Back-End: Node.js (without Typescript), Express.js, and Docker.

2. You are encouraged to use ChatGPT to assist you in the development process.

3. The app source files should be shared via a public git repository (please do not upload this presentation to the public git repo).

User Interface Description

1. Please create a web application for drawing 1D/2D shapes with color.

2. The app has 3 buttons:

    a. A 'Reset' button - to clean the screen (removes all drawn shapes).

    b. A 'Choose Random Shape' button - that triggers a request to a Node.js/Express.js server for receiving a random shape. The server should respond with one of the following shapes: 'line', 'triangle', 'rectangle', and a 'circle'.

    c. A 'Choose Random Color' button - that triggers a request to a Node.js/Express.js server for receiving a shape color (fill and border). The server should respond with one of the following colors: 'red', 'orange', 'yellow', 'green', 'blue', 'indigo', and 'violet'.

3. At the center of the screen there is a canvas to draw the basic shapes.

4. The Canvas size and buttons position should be responsive to the screen size.

User Interface Diagram

Canvas

Reset

Choose Random Shape

Choose Random Color

Front-End Logic and State

1. The user should be able to see what is the current shape to be drawn and what is the current color.

2. A shape can be drawn with the user's mouse:

    a. First left mouse button click (mouse-down event) - determines the top-left position of the shape.

    b. A mouse-move event tracks the current bottom-right shape position.

    c. The shape changes its size based on the current mouse position until the user releases the left mouse button (mouse-up event).

3. The user should be able to draw multiple shapes on the screen.

Server Description

1. Please create a Node.js, Express.js server that has 2 endpoints:

    A. Get a random shape - the server should respond with one of the following shapes: 'line', 'triangle', 'rectangle', and a 'circle'.

    B. Get a random color - the server should respond with one of the following colors: 'red', 'orange', 'yellow', 'green', 'blue', 'indigo', and 'violet'.

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