B2V Technology

Web Development Projects

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Musical Instrument

Create an interactive piano that you can use to play music with your keyboard.

Brief

Creating an interactive piano that users can play with their keyboard involves designing a virtual piano interface and implementing keyboard event handling.

Level 1

- You can create a set of keys with different colors to resemble piano keys. Include both white and black keys, and arrange them in the typical piano layout.
- Decide which keys on the computer keyboard will correspond to each piano key.

Level 2

- Choose or create audio samples for each piano key. These samples will be played when a user presses a corresponding key on the keyboard.
- Implement keyboard event handling to detect when a user presses a key on the computer keyboard.

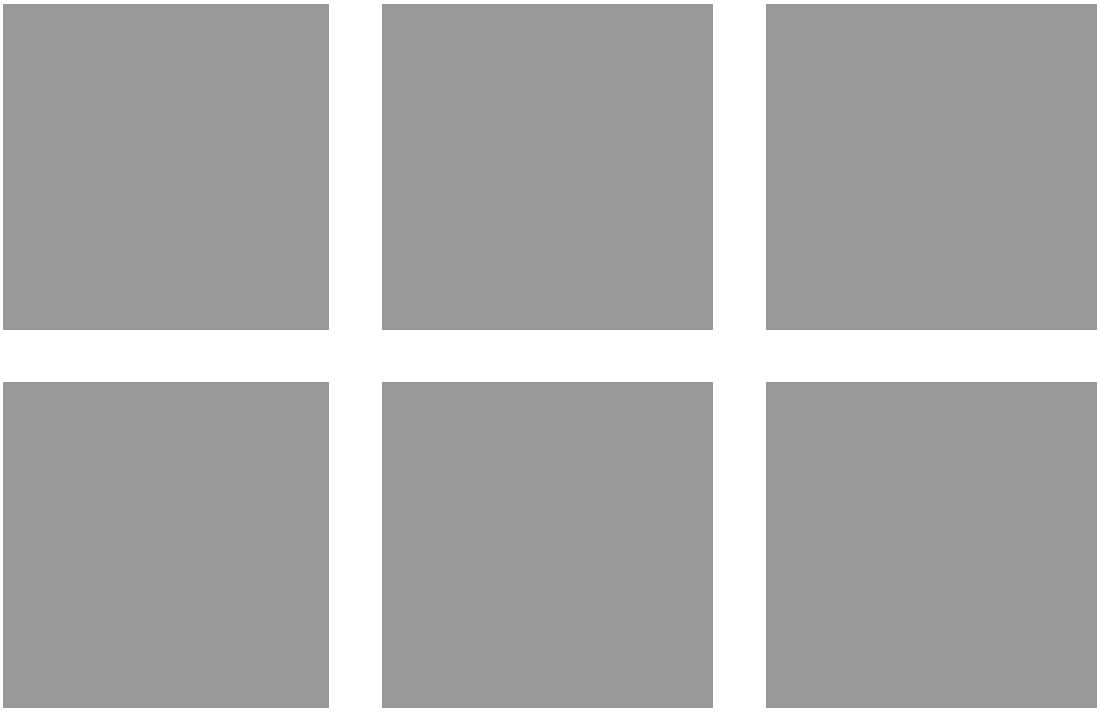
Level 3

- Implement logic for handling sustain and release when keys are pressed and released.
- Ensure that the virtual piano is responsive to different screen sizes. This is especially important if users will be accessing the piano on various devices
- Design the virtual piano with accessibility in mind

To Do

- [ ] Create a buttons
- [ ] Play sound when clicked
- [ ] Arrange a notes in scale
- [ ] Create a piano layout
- [ ] Create a effect layout

Layout Design



Stopwatch

Creating a React stopwatch involves designing a user interface with start, stop, and reset functionality.

Brief

Identify the components needed for your stopwatch. This could include a main stopwatch component, buttons for start, stop, and reset, and a display area to show the elapsed time.

Level 1

- Create the main stopwatch component that will encapsulate the entire stopwatch functionality.
- Use React state to manage the stopwatch's state.
- Design an area in your component to display the elapsed time.

Level 2

- Create buttons for starting, stopping, and resetting the stopwatch.
- These buttons will trigger different actions when clicked, such as starting the timer, stopping the timer, or resetting the elapsed time.

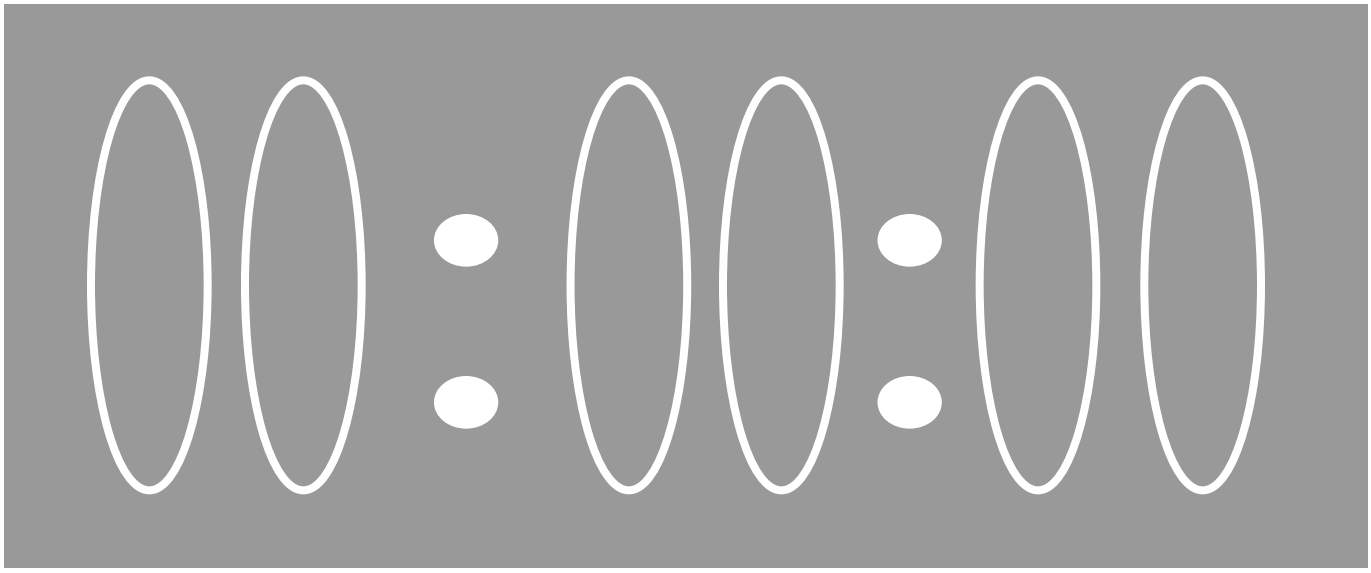
Level 3

- The stop button should pause the timer, and the reset button should set the elapsed time back to zero.
- Create a simple React stopwatch without providing specific code. Remember to adapt the implementation based on your design preferences and any additional features you want to include in your stopwatch.

To Do

- [ ] Create a digital clock
- [ ] Add start button
- [ ] Add stop button
- [ ] Add reset button
- [ ] Add a functionality

Layout Design



Start Reset Stop

Single Page Application

Creating a Single Page Application (SPA) involves conceptualizing and designing an application.

Brief

Designing an application that functions within a single web page, dynamically updating content without requiring a full page reload. Identify the key sections, components, or features that will be part of the application.

Level 1

- Create wireframes or mockups of your application's user interface. Design the layout, navigation, and visual elements to ensure a cohesive and user-friendly experience.

Level 2

- SPA is responsive to different screen sizes and devices. Implement responsive design principles to provide a consistent and visually appealing experience across various platforms.
- Optimize your SPA for performance by minimizing the initial load time.

Level 3

- Design your SPA with accessibility in mind. Ensure that the interface is navigable using keyboard controls, provide alternative text for images, and follow best practices for creating an inclusive user experience.
- Implement security measures to protect your SPA against common vulnerabilities.

To Do

- [ ] Create a Navbar
- [ ] Create a Home
- [ ] Create a About
- [ ] Create a Course
- [ ] Create a Contact

Layout Design

Navbar

Home

About

Contact

Footer

Tic-Tac-Toe

Creating a Tic-Tac-Toe game in React without coding and without using any external packages.

Brief

The game is won if a player has three of their symbols in a row, column, or diagonal.The game is a draw if the board is filled, and no player has won.

Level 1

- Tic-Tac-Toe is played on a 3x3 grid.
- Two players take turns marking a square with their symbol (X or O).
- Initialize an empty array to represent the board state. Each element in the array corresponds to a square on the grid.

Level 2

- Define a variable to keep track of the current player (starting with Player X).
- On each turn, the current player marks an empty square with their symbol.
- After each move, check if the current player has won.

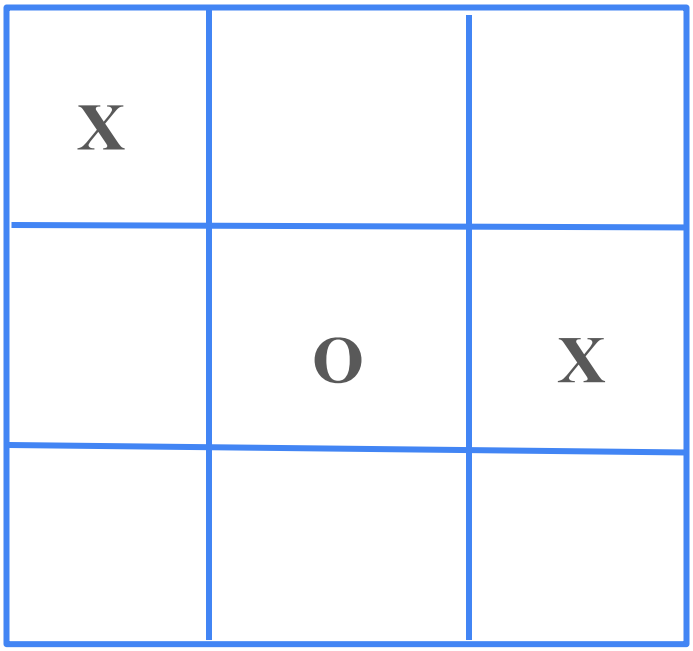
Level 3

- After a player makes a move, switch to the other player for the next turn.
- When the game is won or drawn, display a message indicating the result.
- Optionally, allow players to restart the game.

To Do

- [x] Create a 3x3 grid
- [x] Add X and O player
- [x] Add Winner trophy
- [x] Add a move

Layout Design



Play 1: X

Play 2: O

Winner: First Player

Task Management System

Creating a Task Management System in React without coding involves outlining the structure and logic.

Brief

Developing a task management system using React offers a valuable project to help users efficiently organize and track their tasks. Through this application, users can create, update, and delete tasks, set deadlines, assign priorities, and receive notifications.

Level 1

- Define the basic features of a task management system, such as creating, updating, and deleting tasks.
- Tasks may have properties like title, description, due date, priority, and completion status.

Level 2

- Consider using properties like title, description, due date, priority, and completion status for each task.
- Envision a central area where tasks will be listed.
- Tasks should be displayed in a clear and organized manner.

Level 3

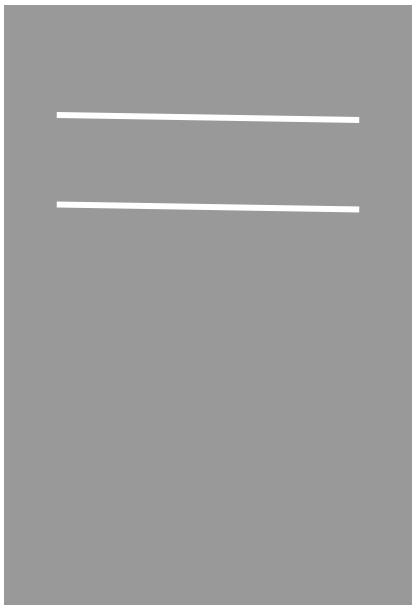
- After a player makes a move, switch to the other player for the next turn.
- When the game is won or drawn, display a message indicating the result.
- Optionally, allow players to restart the game.

To Do

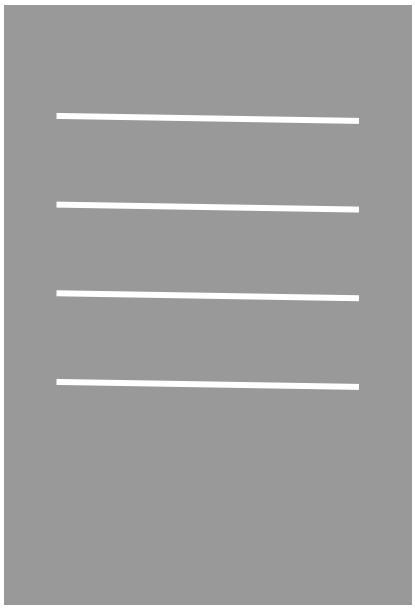
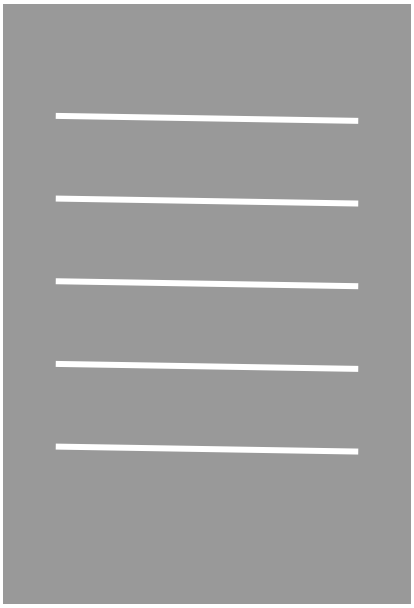
- [x] Create a 3 Option
- [x] First one Onprogress
- [x] Second one pending
- [x] Third one Completed

Layout Design

Onprogress



Pending



Completed