In this project, I extended the basic side-scrolling platform game by adding a custom enemy, collectible items, a “Game Over” screen, and background music and sound effects. I chose these features because they make the gameplay feel more dynamic and engaging. Integrating p5.sound was particularly rewarding: I included a jump sound that plays whenever the character jumps, and a hit sound when the character collides with enemies. This addition helped me learn about preload functions, event-driven audio playback, and how to manage browser restrictions regarding user interaction and sound.

One of the trickiest parts of the project was implementing the camera system alongside enemy movement and collision detection. Adjusting camera translation to track the player without interfering with enemy coordinates required carefully offsetting positions. Also, ensuring that falling into canyons and colliding with enemies both subtract lives—while still avoiding double-counting—was unexpectedly complex. I needed to use boolean flags like `playerLostLife` and `isPlayerDead` to handle these events correctly.

Through this process, I practiced several key skills. I gained a better understanding of p5.js transformations, as well as general animation logic such as frame-by-frame updates for enemies. I also improved my debugging strategies by using the console for continuous feedback on player states. Finally, exporting the code to a final playable demo taught me about project organization and how to structure a game so that it’s easy for others to run and understand.