**Assignment: Block Shooter Game using WebGL**

**Objective:**  
Develop a simple block shooter game in WebGL where the player shoots and destroys incoming blocks. Each block will be rendered using texture images. The game will help you practice concepts related to 3D rendering, texture mapping, event handling, and collision detection in WebGL.

**Requirements:**

1. **Game Setup:**
   * Create a basic game window using WebGL and HTML5 Canvas.
   * The player controls a shooter located at the bottom of the window.
   * Blocks will come from the top of the screen at random filled lines.
2. **Block Rendering:**
   * Each block should be rendered as a 2D object (e.g., a rectangle).
   * Apply a texture image to each block (e.g., different images for different block types).
   * Blocks should vary in hit points they have to damage before they destroyed.
3. **Player Controls:**
   * Allow the player to move the shooter left and right using the keyboard.
   * The player should be able to shoot projectiles by pressing the spacebar or a designated key.
4. **Collision Detection:**
   * Implement collision detection between the projectiles and the blocks.
   * When a block is hit by a projectile, it should be destroyed and removed from the game.
   * Each successful hit should increase the player’s score.
5. **Texture Mapping:**
   * Load and apply texture images to the blocks using WebGL texture mapping techniques.
   * Ensure that texture coordinates are correctly assigned so that the image appears properly on each block.
6. **Game Logic:**
   * Blocks should continuously spawn at random intervals from the top of the screen.
   * The game ends when a block reaches the bottom of the screen or collides with the player.
7. **Additional Features (Bonus):**
   * Add sound effects for shooting and block destruction.
   * Implement a simple user interface (UI) to display the player’s score and remaining lives.
   * Add multiple levels where the game difficulty increases (faster or more frequent blocks).

**Deliverables:**

* A ZIP file containing the following:
  + HTML, JavaScript, and WebGL shader files.
  + All texture images used in the game.
  + A README file describing how to run the game and any additional features implemented.

**Evaluation Criteria:**

* **Game Functionality (40%):** How well the game works according to the specified requirements.
* **Code Quality (20%):** Clean, well-documented, and modular code.
* **Texture Implementation (20%):** Correct and effective application of textures to blocks.
* **Creativity and Additional Features (20%):** Any extra elements or enhancements added to the game.

**Deadline:**

Check On LMS