**SPARTAN EXPLORER**

A interactive browser-based game where the player controls a spaceship, navigates through radar signals, collects targets, and competes for the highest score. Developed using HTML, CSS, and JavaScript.

**🚀 Features**

* **Player Ship Navigation**
  + Responsive keyboard controls (WASD / Arrow keys)
  + Inertia and bounce physics on collision with borders
* **Radar System**
  + Full-sized radar with real-time indicators
  + Mini radar with pulsing animation and moving targets
* **Target Mechanics**
  + Dynamic targets that move randomly and respawn per level
  + Score increases with each successful collision
* **Progress System**
  + Time-limited gameplay with extensions upon target collection
  + Level progression increases target count and movement speed
* **Audio Integration**
  + Background music and sound effects for target explosions and game events
* **HUD Interface**
  + Real-time status bar (timer)
  + Scoreboard
  + Game over and level-up overlays with restart/next level options

**📦 Technologies Used**

* HTML5 for structure
* CSS3 for visual styling and animations
* JavaScript for game logic and interaction

**📂 Project Structure**

├- index.html # Main HTML layout

├- styles.css # All HUD, animations, radar and layout styling

├- game.js # JavaScript game engine (logic, controls, physics)

├- sounds/ # Audio files

(bgmusic, explosion, game-over)

├- documentation/ # Documentation files (readme,SPARTAN\_EXPLORER\_documentation)

**🔧 How to Run**

1. Clone or download the repository
2. Open index.html in any modern browser
3. Click **Start Game** to begin

✅ No installations or frameworks needed — fully client-side!

**🕹️ Controls**

| **Action** | **Keys** |
| --- | --- |
| Move Up | W / W / ↑ |
| Move Down | s / S / ↓ |
| Move Left | a / A / ← |
| Move Right | d / D / → |

**📈 Scoring & Levels**

* Each target hit: **+1 score** and **+1s bonus time**
* Complete all targets to advance to the next level
* Each level increases difficulty:
  + More targets
  + Faster target movement

**💾 Highscore System**

* Stores the highest score in **localStorage**
* Displays highscore on **Game Over screen**

**✅ Future Improvements (Suggestions)**

* Add sound settings (volume toggle)
* Implement enemy ships or hazards
* Add mobile touch controls
* Introduce power-ups or ship upgrades
* Multiplayer leaderboard (via backend or Firebase)

**📜 License**

MIT License — Free to use, modify, and distribute.

**👨‍💻 Developed By**

**Gonçalo Valério**

*Project concept, integration, and implementation.*

With assistance from **OpenAI's ChatGPT**  
*Used for code generation, refinement, and documentation support.*