Execution Steps to Run the Application Successfully

1. Prerequisites

Make sure the following are installed and configured on your machine:

* Frontend:
  + Node.js (version 16 or above)
  + NPM (Node Package Manager)
  + React & Redux libraries
* Backend:
  + .NET SDK (version 6 or above)
  + Visual Studio 2019 or VS Code with C# extension
  + Postman (optional, for API testing)

1. Application Setup
   1. Clone the Repository
      1. Open a terminal or command prompt.
      2. Clone the project repository.

**git clone <repository-url>**

**cd battlefield-game**

* + 1. Install Dependencies
       - Frontend

cd frontend

npm install

* + - * Backend
      * Open the backend project folder in **Visual Studio** or **VS Code**.

1. Running the Application
   1. Start the Backend (API)
      1. Open the backend project in Visual Studio or run the following command from the backend folder:
      2. The backend will start at http://localhost:5000 (or https://localhost:5001 for HTTPS).
      3. Use **Postman** or any API client to test endpoints
   2. Start the Frontend (React Application)
      1. Open a terminal in the frontend folder

**cd frontend**

**npm start**

* + 1. The React app will start at <http://localhost:3000>
  1. Open the app in your browser to begin playing the game.

1. Testing the Application

* **Frontend**: Interact with the graphical grid, select coordinates, and fire shots.
* **Backend**: Confirm that API responses correctly display "hit", "miss", or "sunk" statuses for shots.

1. Troubleshooting

 Port **Conflicts**: If the backend fails to start, make sure ports 5000/5001 are not in use.

 Missing **Dependencies**: If any dependencies are missing, rerun npm install or dotnet restore.

 CORS **Errors**: If the frontend fails to call the backend API, ensure that CORS is properly configured in the backend.

1. Conclusion

Following these steps, you should now have the Battlefield game running locally. Make sure to explore the functionalities and ensure both frontend and backend communicate seamlessly.