**Leaderboard System – Task Submission Document**

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**Task Name:** Leaderboard System  
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**Task Overview**

Build a **Leaderboard System** using **React.js** for frontend and **Node.js** for backend. The system should support:

* Listing top 10 users.
* Selecting a user from the list.
* Claiming random points for a selected user.
* Dynamically updating the leaderboard rankings in real-time.

**Tech Stack Used**

| **Layer** | **Technology** |
| --- | --- |
| Frontend | React.js (with MUI for UI components) |
| Backend | Node.js + Express |
| Database | MongoDB (Mongoose ODM) |
| API Testing | Postman |

**Frontend Features**

* **User List UI:** Displays top 10 users in a list.
* **Search & Add User:** Add new user via input field.
* **Claim Points Button:** Assigns random points to selected user.
* **Leaderboard UI:** Shows rankings based on points in real-time.

**Backend API Endpoints**

| **Method** | **Route** | **Description** |
| --- | --- | --- |
| GET | /api/users | Get all users (top 10) |
| POST | /api/users | Add a new user |
| POST | /api/users/:id/claim | Assign random points to user |
| GET | /api/leaderboard | Get ranked list of users |

**Validation & Error Handling**

* User name cannot be empty.
* Proper error messages for invalid user IDs or database issues.