STEthan Technologies

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Business Opportunity:

We are looking to create a competitive tournament organizer application. The app will allow a tournament organizer (in any sport or game) to create and manage competitive tournaments. The app can schedule and track the results of the tournament in both round robin and bracket style competition. Teams/individual users will be able to register, track, and join their matches from their dashboards. The app will have some custom presets built into the tournament creator, for example chess, robotics competitions, and video game tournaments, but will also allow for organizers to create their own presets or build the tournament manually from scratch. They will also have the option to share their presets with other users.

The app will also feature email reminders for all participants that will send an email reminding them of an upcoming match at a preset interval (chosen by the organizer). Where applicable, the teams/individuals will be able to join a match/server from the tournament screen or from the email reminder.

The tournament bracket and round robin features will be able to be automated as much as the organizer wants. The bracket can fill the next round of matches once the winners are chosen, and can schedule times for the matches automatically.

User Description:

There are two primary types of users for this application. The Tournament Organizer has administrative rights to change, edit, create, and delete events. They will also manage the events as they happen. Participants will use the organizer to see a visual of the tournament bracket, check the status of upcoming matches, view all the events they are registered for, and possibly join an event from the dashboard (depending on the nature of the event). Participants will NOT have the ability to alter the structure, timing, or any other facet of the events.

Tournament organizer will be able to register as a participant in their own events. This will create a switch at the top of their dashboard that will swap between the "Organizer View" and the "Participant View". They will also be able to list one or two alternate administrators with the same CRUD privileges as the organizer.

High Level User Requirements:

- All users - No account needed
    - View upcoming and live public events
    - Sign in or create an account
    - Search for specific events to view
- Tournament Organizer - Needs to sign into an account
    - View, create, update, and delete events
    - Can register for their own events
    - Add and remove participants for events they create
    - Create and share tournament presets
    - Modify the tournament bracket live
    - Can modify schedule/timing of matches as needed.
    - Can designate other users as "event admins" (same user privileges as Organizer)
    - Can set passcode for joining private, or make event public.
- Participants - Needs to sign into an account
    - View and register for public events, or join private events with invite.
    - Track schedule and results for the event they are registered for
    - Opt-in or opt-out of email notifications for events they are registered for
    - Unregister for events
    - Receive a warning for they are trying to register for overlapping events
    - Join or create a team
- Site Administrator - Needs to sign into an account
    - Ban, delete, edit, and disable accounts
    - Hide and delete events

Technology Stack:
- React.js front-end
    - Material UI for styling and component library
- Node.js backend
    - Express
    - Nodemon
    - Axios (for http requests)
- Microsoft SQL Server for database
- Github for Version/Source control
- Azure (tentative) for hosting
    - Other options
        - AWS
        - Render
        - Heroku
- Trello for task management/Agile Stories

High Level Database Architecture:

Microsoft SQL Server Database

- Potential tables
    - User Accounts
    - User Type info tables
    - Events info table
    - Bracket/Round Robin Table
    - Presets table
    - Event type table
        - In person
        - Online
    - Team account/info table