Crazy Calvin's Kangaroo Rides

Background

Crazy Calvin's Kangaroo Ride business is starting to take off. He is getting so much business that he can no longer manage to book his rides by phone, so he's looking for someone to build a registration app to manage his crazy kangaroo rides.

Right now Crazy Calvin offers 3 different types of rides (the Jumpy Joey Easy Ride, the Big Bounder Down Under Ride, and the Deadly Outback Special), but as his business grows he may need to add more types of rides later. He is open for business every day from 8:00am to 5:00pm, and rides run in 30-minute increments between. The last ride for the day starts at 4:30.

Although he hopes to grow his business in the coming year, Crazy Calvin only has a few tour guides working for him right now, so rides cannot be double booked.

What Calvin would like is a form where people can sign up for a Kangaroo ride. After entering the relevant ride information into the form they will see a confirmation screen that will display the information they entered, as well as a confirmation code.

Calvin would also like to have an administration screen where he can view registrations.

Registration Form Requirements

- The registration form must contain the following fields. It's up to you decide what the necessary data type and length should be.
    - First Name **(required)**
    - Last Name **(required)**
    - Email Address (Must be a valid email address) **(required)**
    - Phone Number with area code **(required)**
    - Type of ride – choices: **(required)**
        - Jumpy Joey Easy Ride
        - Big Bounder Down Under Ride
        - Deadly Outback Special
    - Date of ride **(required)**
    - Time of ride (remember, rides are in 30 minute increments from 8:00a to 4:30p) **(required)**
    - Special needs (a free-form text area where a user can make a special request, or indicate any special needs they have) **(optional)**
- The form will need to be validated. You may choose how to handle validation however you like (front end/back end), however invalid registrations must not be stored in the database. Invalid entries include:
    - Any required field is missing
    - Duplicate registration – Registrations may be considered duplicates if they match first name, last name and email address.
    - A request for a date and time that is already booked. Remember, Crazy Calvin doesn't have any extra tour guides!
- If the submission fails validation, display a message to let them know that their submission has failed and why so they can correct it
- If the submission is successful, display a message to the user telling them that the registration has been confirmed, and include a confirmation code/ID.

Administration Screen Requirements

Crazy Calvin is a simple man, and is not very computer savvy. He doesn't need much here other than to see a list of current registrations in a readable format. It would be nice to be able to pull up individual registrations and view them as well, but it's not necessary.

Bonus Points

These requirements are strictly optional. Feel free to implement any or none of them. They are in no particular order.

1. **Registration Edit**
   Calvin is tired of keeping track of registration changes, so he would like to be able to edit individual registrations. Create the ability for him to update a registration.
2. **Cancellation**
   Give Calvin the ability to delete registrations from the database.
3. **More Rides!**
   Thanks to your awesome work, Crazy Calvin is getting more business and has decided to create more ride types. Please add the "Koala Cove Kids Ride" and the "Hardcore Painful No Refunds Ride" to the form.
4. **More Staff!**
   Due to the pick-up in business Calvin has been able to hire more staff! This means that he can now book up to 3 rides at any given time slot. Please change the form validation to allow for this.
5. **API**
   Calvin's business is taking off so much that other companies who would like to build kangaroo ride registration apps have contacted him! He needs an API to allow these 3rd party integrations. Please create a REST API for the registration form. The API only needs to handle inserts, and the form validation rules need to apply. If an API call is successful, return a confirmation that includes the registration data and the confirmation code.
6. **Responsive**
   To accommodate adventure seekers from all devices please make sure that the form is fully responsive and mobile-friendly.
7. **E-Mail**
   Upon completion of the form (or on a successful API insert) send an email containing the registration data to both Crazy Calvin and to the registered user. (Use whatever email you want for Calvin, but the email to the user must be the email address provided on the registration form)
8. **Scale up!**
   Business is exploding and Crazy Calvin has found its necessary to throttle in the huge influx of Kangaroo registrations. His meager 486DX server can barely keep, and he refuses to upgrade because he is a sucker for nostalgia and he has invested all his earnings in kangaroos. Alter your project so that submissions are handled asynchronously, and are queued up for processing using an asynchronous task queue. Change the form submission confirmation screen to indicate that the registration is processing and that the user will receive an email confirmation once it is complete. Be sure the email includes whether or not the registration was successful or not. **Super Double Bonus:** Using the technology of your choice, implement a push notification to registration screen once the registration has been processed.

Technology Requirements

Feel free to use any programming language(s), libraries, and tools you would like to use. The storage for the data may be whatever you would like as well (MySQL, SQLite, NoSQL, etc.). There are no limitations as long as the requirements are met!

Delivery

Please deliver your completed project via hosted git repo such as github or bitbucket in order to make it easy to retrieve and review. Make sure your commits are many and descriptive to allow for insight into your thought process.