A basic vaccination census system and trend analysis

Screen 1: Census Management

1. Have a screen where you accept a name field, a gender field, a birth date field
2. Record the following information from the submission:
    a. Name: Larry Page
    b. Gender: Male / Female / Other
    c. Birth Date: Date picker (limit to last 100 years, disable selecting future date)
    d. Vaccinated: Yes / No
3. Save this information into an RDBMS database (Preferably, PostgreSQL)

Screen 2: Trend in census

1. Show a table for each entry in the census, with all 4 information points
2. Draw a Line Chart (Number of vaccinated / unvaccinated people vs age)
    a. There should be two lines for the two choices. One for yes/true, other for no/false choice
    b. Keep age as X-axis and Number of vaccinated / unvaccinated as Y axis
    c. Preferably pick different colors for the two choices (generally libraries take care of this) so they can be differentiated
3. Draw a Bar Graph for number of people from each gender polled for the census vs age
    a. X-axis would be different ages (0-100)
    b. Y axis would be the number of people for each choice
    c. There would be 3 bars for each point in X axis - one bar for each gender

- You may use any chart library you are comfortable with. (If you want a recommendation, Chartjs)
- You may use any SPA frontend library you are comfortable with (react, vue, angular etc). (Recommendation: material-ui if you are comfortable with react)
- You may use any backend framework / language you are comfortable with (Bonus points for node.js / express)

Hint Plan: (Just a suggestion, you can solve however you feel comfortable)
You can make both the tasks just in single page by making Screen 1 a popup / dialog / modal

For form, you need POST API
http://localhost:3000/vote
Request Body structure:

```
{
   name: ‘Larry’,
   is_vaccinated: true,
   birthdate: ‘20-11-1997’,
   gender: ‘male’
}
```

You can use the simplest way to store the data:
Create table “people” with columns (PSQL or MySQL)
id (serial) not null (PRIMARY KEY)
name (text) not null,
is_vaccinated (boolean),
birthdate (timestamp) not null,
gender (enum - “male”, “female”, “other”) not null,

You need GET API to display in the table:
Route: http://localhost:3000/data
Response Structure:

```
{
  data: [
    {id: ‘1’, name: ‘abc’, is_vaccinated: true, birthdate: ‘12-11-1997’, gender: “male”},
    {id: ‘2’, name: ‘xyz’, is_vaccinated: true, casted_at: ‘12-11-1996’, gender: “female”},
    {id: ‘3’, name: ‘someone’, is_vaccinated: false, casted_at: ‘13-11-1994’, gender: “female”},
    {id: ‘4’, name: ‘pqr’, is_vaccinated: true, casted_at: ‘14-11-1995’, gender: “male”},
  ]
}
```

For Line Chart GET API (You can keep the structure depending on the chart library you pick, but this is generic)
Route: http://localhost:3000/counts?is_vaccinated=true (similarly, for the other voting choice, the path would be http://localhost:3000/counts?is_vaccinated=false)
Response Structure:

```
{
  data: [
    {count: 2, age: 15},
    {count: 1, age: 16},
    … (there would be an entry for each age for which there are people counted in the census)
  ]
}
```

For Bar Graph GET API (You can keep the structure depending on the chart library you pick, but this is generic)
Route: http://localhost:3000/results
Response Structure:

```
{
  data: [
    {count: 3, gender: ‘male’, age: 15},
    {count: 1, gender: ‘female’, age: 15},
    {count: 4, gender: ‘male’, age: 16},
```

```
    {count: 3, gender: ‘female’, age: 16},
    {count: 3, gender: ‘other’, age: 16},
  ]
}
```

Bonus points:

- Create nice documentation in the README.md file. Explain steps to set up and run the project.
- Also, mention the libraries you used and links to those.