Project Name: Covid Tracker

Members:
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- Ken Lin
- Daniel Kibatullin

Applications:
1. Countries Application: Country Statistics about COVID-19
2. Notification Application: Sending alerts and updates about COVID-19.
3. Core Application: Basic Stuff

Components:
1. Dashboard Application:
  - Components to display real-time data such as case numbers, recoveries, and deaths.
  - Interactive charts and maps for visual representation.
  - Integration with the COVID-19 API by API-SPORTS for data retrieval.

2. Information Application:
  - Data about the deaths of a country at a given date: new, total, 1M_pop
  - Data about the tests of a country at a given date: new, total, 1M_pop
  - Data about the cases of a country at a given date: active, new, total, critical, recovered, 1M_pop
  - Health guidelines and safety measures related to COVID-19.
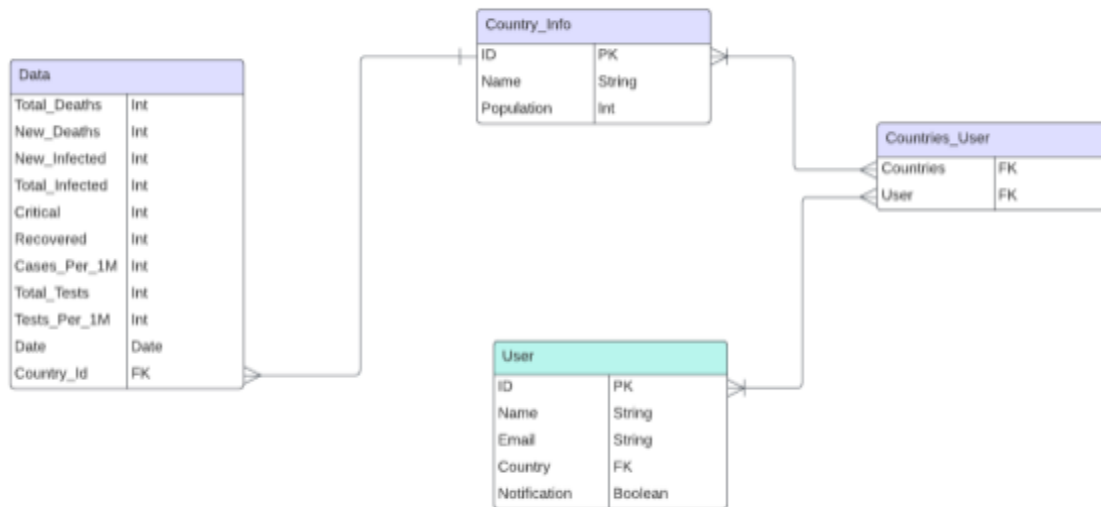 - FAQs and expert advice on COVID-19.

3. Notification Application:
  - System for push notifications and email alerts.
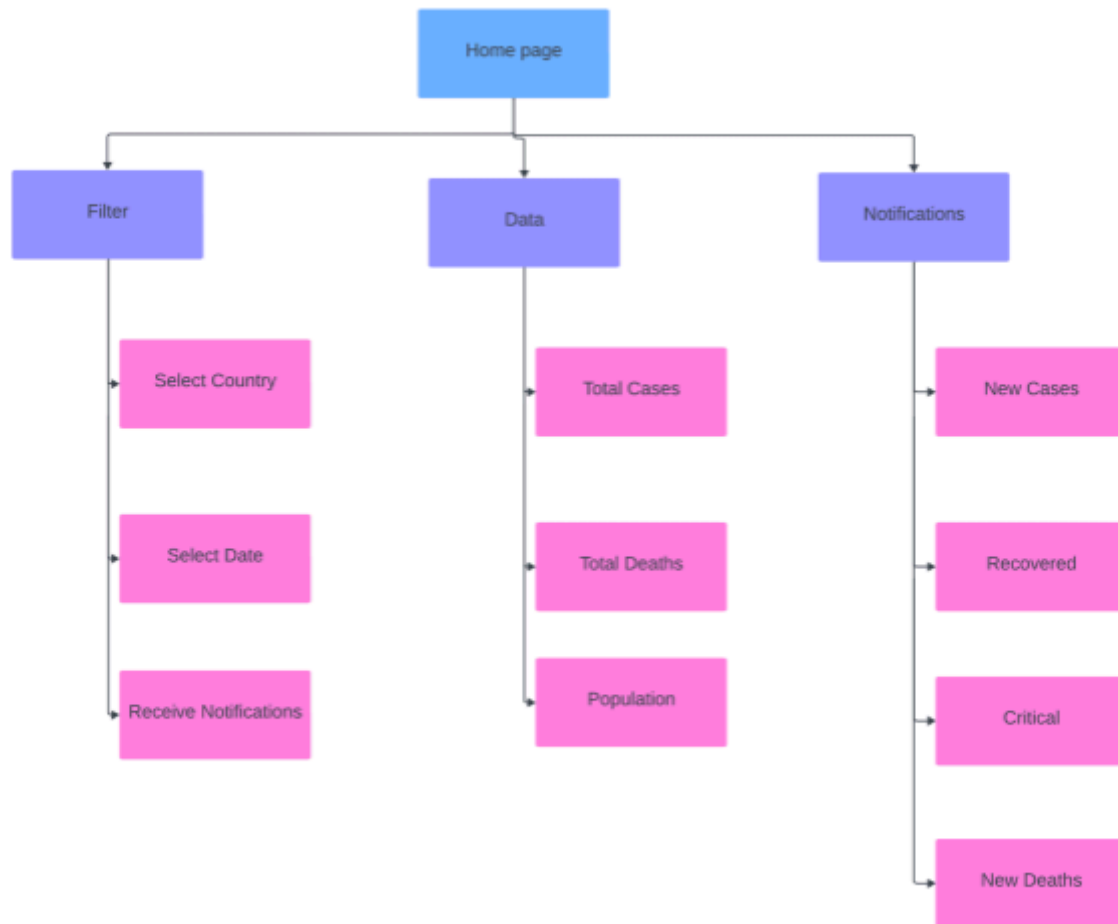 - Configuration options for frequency and types of notifications.

Relationships Between Components:
- The Dashboard and Notification applications will be interconnected through the COVID-19 API data.
- The Information application will provide detailed insights that can be linked in notifications for further reading.

Database Design:

Country_Info

ID	PK
Name	String
Population	Int

Data

Total_Deaths	Int
New_Deaths	Int
New_Infected	Int
Total_Infected	Int
Critical	Int
Recovered	Int
Cases_Per_1M	Int
Total_Tests	Int
Tests_Per_1M	Int
Date	Date
Country_Id	FK

Countries_User

Countries	FK
User	FK

User

ID	PK
Name	String
Email	String
Country	FK
Notification	Boolean

Site Map:

Task Breakdown:
1. Frontend Development:
  - Dashboard UI: Daniel
  - Information Page UI: Ken

2. Backend Development:
  - API Integration and Data Management: Tejas

3. Testing and QA:
  - Functionality and Performance Testing: Tejas, Ken, Daniel

APIs:
  1.) COVID-19 data API by API-SPORTS on RapidAPI
      (https://rapidapi.com/api-sports/api/covid-193)

      Base URL: 'https://api-sports.io/v1'

      Rate Limit: 500,000 per month

      Endpoints and Usage:

      1. Statistical Data Endpoint:
        - Path: '/history'
        - Method: 'GET'
        - Parameters:
          - 'country': The name
        - 'date': The Date (Earliest Date Where We Get Data is 2/2/2023)
          - Description: Retrieves COVID-19 statistics such as cases, deaths, and tests for a
      specific country and date.
        - Response Format: JSON

      Error Handling:
      - Errors returned from the API will be logged and displayed to the admin user for
      troubleshooting.
      - Appropriate user-friendly messages will be displayed to the end-users in case of an API
      error.