Mobile App Engineering Challenge: Family Mode

Here at Eight Sleep, we ingest terabytes of sleep data every week. Every Eight Sleep device sends data constantly and that data is absorbed in the data collection pipeline. Our algorithms classify whether a given customer was in bed, if they were sleeping, which stage of sleep they were in, etc. The algorithms are smart enough to group together each person's sleep times into one "session" (also known as interval). Our customers view and interact with their sleep sessions data via a mobile app.

The Challenge

Your task is to build a "family mode" mobile app that presents this underlying sleep data for three of your fictitious family members.

- The sample sleep session data for the three individuals is in JSON format (see below)
- Your app should enable the viewer to see each individual they're monitoring
- Upon tapping on one of the individuals the app should display the sleep data of the selected person in a meaningful way (we are leaving this intentionally vague - be creative!)

The Deliverable

Your deliverable will be a private github repository with the source code and a brief readme with instructions on how to run it.

General Guidelines

1. Must use React Native. Feel free to use any library you deem appropriate.
2. Please only spend around 5 hours working on this project.

Bonus Points

1. Use Typescript.
2. Incorporate a custom native module as an UI component.
3. Animate data visualization and/or transitions.
4. Unit and/or E2E testing.

Note: these are strictly bonuses, and are not required by any means.

Data Format

1. Each input file holds an object with an "intervals" property which contains an array of sleep session information (sleep intervals).
2. Each interval has a unique "id" and the time when the interval started "ts"
3. Each interval has an array of stages, each stage has a duration (in seconds) and the type of stage, which can be one of the following:
   a. "out" - user is out of bed
   b. "awake" - user is in bed, but not asleep
   c. "light" - user is in light sleep
   d. "deep" - user is in deep sleep
4. Each interval has a property named "timeseries" which is a map from a string (name of timeseries) to an array of timeseries data. The keys of the timeseries object are:
   a. "tnt" - toss and turns
   b. "tempRoomC" - room temperature, in celsius
   c. "tempBedC" - bed temperature, in celsius
   d. "respiratoryRate" - in breaths per minute
   e. "heartRate" - in beats per minute

You can find an annotated example of the data format here:
https://gist.github.com/maghis/8c35fe1bb5c7810bdcc6ca389c6cd702

You can find link to each sample data file here:
https://s3.amazonaws.com/eight-public/challenge/2228b530e055401f81ba37b51ff6f81d.json
https://s3.amazonaws.com/eight-public/challenge/d6c1355e38194139b8d0c870baf86365.json
https://s3.amazonaws.com/eight-public/challenge/f9bf229fd19e4c799e8c19a962d73449.json