Fiit Remote Exercise - Data Science

In this task you will be looking at a particular feature that Data Science has helped develop at Fiit. The exercise is open ended and the expectation is that you will perform some exploratory analysis, visualisation and maybe some modeling and/or discussion regarding avenues to explore. This task has no predetermined time limit, and what we ask as a deliverable is a .zip file with your work and documentation and/or a report describing your arguments, findings and proposed ideas.

Problem

Fiit Club, are the world's first live leaderboard HIIT classes. In Fiit Club, users compete and receive points the harder the effort they put in. In order to participate, users need to wear a compatible heart rate device and once the warm up of the class is over, users will start accumulating points up until the start of the cool down period. Points are granted according to the value of the heart rate's user as a percentage of their heart rate reserve.

You will be looking at data belonging to one instance of Fiit Club which had over 200 participants. We would like you to look at what happened during the workout and look at the reasons behind why a given user finished at a specific position. We would also like you to look at the order in which users finished, and argue if it is a fair outcome based on effort and/or if there were advantages enjoyed by specific sets of users. If so, how do these manifest?
Finally, we would like you to propose any improvements that could be made to scoring, let it be via a modelling approach and/or by using other features/data sources.

For this task we are providing you with three datasets.

1. `workouts__fiit_club.csv` contains information related to all the workouts on the Fiit Club instance, the participating users and which position of the leaderboard each user finished at. Each row represents a single workout belonging to a user and the `created_at` column indicates the start of the workout. There is also information regarding the device used, the app, the lesson and the status of the workout at completion.
2. `fiit_club_bpm_series.json` provides heart rate measurements for all participants of the Fiit club instance.
3. `workouts__history__fiit_club.csv` provides workout histories for the participants and metadata for workouts and users.

Use whatever tool(s) you'd like to do the analysis. The exercise is about us seeing what did you attempt, which decisions you made and why. As we mentioned above, we would like you to criticise the output and we are keen on both positive and negative results that you find interesting.