CS 208 Embedded EthiCS Module, 10 March 2022
Post-Class Assignment

Fictionalized Case: "Coachable," Part II

Background on Coachable (repeated from the in-class activity)

Coachable is a technology company that designs wearable fitness trackers for athletes. Coachable trackers collect hundreds of data points per second about users' blood flow and temperature in order to measure their resting heart rate, heart rate variability, and respiratory rate throughout the day and night. These measurements are used to calculate metrics on users' sleep quality (including duration in bed, duration asleep, number of disturbances, length of time spent in different sleep stages, etc.), the level of strain (i.e., physical and mental stress) put on their body, their recovery rate and readiness for activity, and their overall cardiovascular health.

In order to learn how different factors affect their training and performance, users log their behaviors and demographic traits in the Coachable journal. Coachable provides over 100 categories in which users can log information, including:

- Alcohol and marijuana consumption
- Supplement use and dosage
- Caffeine consumption
- Medications and sleep aids
- Screen time and bedtime routines
- Air travel
- Stretching and other recovery modalities
- Nutrition and diet plans
- Menstruation and pregnancy

One of Coachable's newest features is allowing users to understand the effect that sexual activity and arousal has on their training and recovery. This allows them to adjust their sexual activity as needed to optimize their athletic performance. The Coachable journal now prompts users to enter information about:

- When, where, and with whom they engage in sexual activity

Coachable users receive detailed reports on how the behavior logged in their journal affects their athletic training, along with personalized training plans, lifestyle tips, and audio-guided workouts.

New information about Coachable for this assignment

In class, we discussed Coachable's use of raw user data for internal purposes and its practice of allowing third parties to perform differentially private queries on data for their own purposes. Now, consider an additional way in which Coachable uses data: Coachable trains models that decide what kinds of ads should be sent to what kinds of users. Differential privacy techniques are employed during the model training process. Coachable then uses these insights to micro-target ads to its users–for example, to target ads for diet plans and products toward athletes who might want to change their diets to enhance their athletic performance. It also releases the model to researchers, advertisers, and sports recruiters who are interested in the relationship between behaviors, demographic traits, and athletic performance.

Questions:

1. Explain how (if at all) the additional data practice disrupts the informational norms that operate in a good athlete-coach relationship. (Consider drawing diagrams as you did in Questions 1-2 of the in-class activity.)

2. Evaluate any disruptions you identify. Do they support general and context-specific values and goals? Then, based on your evaluation, say whether Coachable should do anything differently with respect to this data practice.

3. Reflect on the role that differential privacy played in your analysis. Did the use of differential privacy address any legitimate privacy concerns that otherwise would have arisen? Did it address all legitimate privacy concerns?

Questions? Contact Sophie Gibert at sgibert@g.harvard.edu
Please take the Embedded EthiCS survey at https://tinyurl.com/CS208S22