#### **Background:**

TigerThrive is a sleek new university app that seeks to improve student wellness by identifying patterns of unhealthy behavior. It prompts students to answer questions about their health habits, including exercise, sleep, studying, and social activities. The app rewards the frequency of their responses with Paw Points.

But after TigerThrive’s rollout, the University has noticed that it’s not being used as much as they would like. To increase usage of the app on campus, the University has partnered with a company called Accountabilify, which has a reputation for growing early-stage, health-related apps. Their strength is apps that allow users to form “teams” to encourage each other to achieve fitness goals (like a “team” to train for a half marathon, or a jiu jitsu tournament).

Accountabilify has promised to increase engagement and is highly motivated to do so, since they’re paid by the university for each additional user they bring in. With rising mental health concerns on campus, the university is also highly motivated to make the app a success because of its legal responsibility to keep students safe.

As the partnership progresses, however, both the University and Accountabilify face a series of dilemmas. In this roleplay, we will explore how the University administrators balance the university’s goals with their responsibility to students, and how engineers at Accountabilify try to balance job pressures with larger social concerns.

#### **Sprint 1: Scalability**

To increase engagement on TigerThrive and promote healthy behaviors among more students, Accountabilify suggests adding social features to the app, including student profiles, the option to “follow friends”, and the ability to “tag friends” in group exercise events. Accountabilify has a strong record of successfully using such social features with previous projects.

There is a debate on whether adding social features is the right decision for things like student privacy, and how it may impact the app's scalability. For instance, since the data any given student submits to the app could be sensitive, it would have to be kept private from their “friends.” Scaling the social function “fast” would add new users quickly, and make profit for Accountabilify; growing “slow” would give you more time to study the ways students might use the social function, and how the University might use the data gathered from it.

**Team Decision:** Should Accountabilify urge the University to “scale fast” by adding the social functionality now or “scale slow” and let the app be adopted at the current pace (maybe adding social later)?

**Stakeholder Choice:** Two employees are up for a performance evaluation. Regardless of how you voted on the course of action, who made the better argument – Alfonso (who argued “scale fast”) or Benita (who argued “scale slow”)?

#### **Sprint 2: Data Privacy**

The university decides to add social features to the TigerThrive app and student user uptake skyrockets. Another problem arises, however.

Now with many more users on the app, it becomes evident that TigerThrive is not accurately predicting students who are in distress. For instance, a very tired student (a new user, without much data yet) received a message saying, “Go for a run! You need exercise” – but collapsed on their run because they were exhausted. The app also flagged another student for mental health concerns who was just anxious from watching season 1 of Euphoria.

To fix this, some engineers on your team propose scraping data from other apps on students’ devices (like Apple Health, Strava, Fitbit, etc) with user permission to obtain more accurate health data. They’ve done this in the past with fitness apps. They’ll compare the new info they scrape to a database of health data they bought from Apple – as well as a ton of such data from the users of their diet and running apps – using a machine learning algorithm. But others on your team are skeptical. Will this really improve your predictions, which after all were trained on fitness data, not mental health data? Is it ethical to gather such detailed personal data about students? Who is keeping this data safe?

**Team Decision:** Should Accountabilify recommend to the University that it incorporate this scraped data into TigerThrive?

**Stakeholder Choice:** One member on the team will receive a promotion. Regardless of whether you voted for their side in the debate, who made the better argument – Chidi (for the interests of the customer/university) or Daria (for the users/students)?

#### **Sprint 3: Compliance Dilemma**

The university eventually decides to allow TigerThrive to scrape data from health apps, greatly increasing the robustness of its predictions. So much so, that when a crime is committed on campus, the campus police ask the engineers at Accountabilify to make predictions about possible culprits using data on TigerThrive (including location, heart rate, recent activity, and friends’ activity).

The engineers debate whether to aid the police search. The company must navigate this compliance dilemma and determine how to balance the interests of different stakeholders.

Some Accountabilify engineers say the algorithm wasn’t trained to predict crime or track student behaviors per se; it was really built to predict student stressors. They think they can work quickly to make some better predictions before you comply with the police; but if you wait, it may be too late to stop the criminal.

**Team Decision**: Should Accountabilify share its data and predictions with the police, or try to delay releasing this information?

**Stakeholder Choice:** Who made the better case, either for delay (Ezekiel) or compliance (Fiona)?

#### **Sprint 4: Hedging Bets**

Accountabilify's Board of Directors give the campus police ongoing and full access to the app's records for daily use. Unfortunately, this unrestricted access leads to the police investigating students based on biased predictions that overestimate the probability of mental health issues for minority and international students.

The commercial health data Accountabilify uses doesn’t have a representative sample of all populations, since users of digital health devices are mostly white and Western. The app's social features exacerbate this bias, since the ML algorithm learned that friend groups often act and think alike. In one particular case, this led campus police to remove an international student based on a faulty prediction of her mental health, compounded by the faulty predictions it had made about her international friends.

Should Accountabilify turn off the app's social features and risk its use plummeting, which would wipe out their profit in the short-term? Or should they allow the app to continue with its biased predictions, and find ways to manage the risks in the long-term?

**Team Decision**: Should Accountabilify disable the social function on TigerThrive?

**Stakeholder Choice:** Gagan argues for a plan to make the company profitable in the longer term (3 years), while Hazel argues for a plan to keep it profitable in the short term. Who has the right approach?