FishBit Initial Project Outline / Requirements

# Context:

As someone who is always thinking about their health, their daily/academic efficiency, and a college student who values their sleep, I’ve always done research on how to improve these aspects of my life. I have been going to the gym for almost 4-5 years now, and have since learned how important things like diet, sleep, and managing stress levels are. Since I have started college, I have learned that there is a world of a difference between studying on 4 hours of sleep and 8 hours of sleep, but even then, sometimes, you might feel like you slept horribly for 8 hours. Yet many people claim that 6 hours of sleep is enough for them. Some other points of research that I’ve come across shows that exercise is beneficial for stress reduction, which helps your mood, which gives you the best opportunity to work your hardest during the day, and then get a good nights sleep. The same goes for diets. Some claim high carb meals are bad for you, eating less before dinner is good for you, and the list goes on. I personally haven’t been able to attribute any of these factors to each other so I am not sure.

Knowing all this, I have been trying to be better at meeting all the requirements of daily activities/steps, good sleep, managing my stress. I want to know if I have been doing a good job, and if there is anything I can do better.

But with limited time during the day, being a college student who will always be stressed, I’ve come to question which factors are MORE important than others, and at what point does focusing on these factors cause diminishing returns? Are there even any quantifiable correlations and causations in the first place? Are there any deeper points that can be improved to improve qualities like sleep, stress, focus, etc…

# What data is available?

Access to Fitbit data includes sleep details, stress, hrv, brv, skin temp, daily activities.

Self-surveyed data at the end of the day. (limited amount, currently ~40 days)

Diet data from MyFitnessPal (limited amount, currently ~20 days)

# Questions to be answered:

1. How have my metrics such as sleep, steps, stress, etc changed over time as I got more serious about improving them?
   1. What are the longest streaks of “good” and “bad” patterns? Do they go from good to bad or bad to good quickly? Or is there a time period in between of slow improvement?
2. Are there any correlations between each of them?
3. Are there any causal factors that I can identify?
4. Which metrics have a higher impact on my life?
5. Are there any clues to improving these metrics, and by extension of question #3, can I predict the metric, allowing me to adjust my actions and plans? (IE. If I am on track of having bad sleep / bad day, I would take time to relax more and reset, rather than stressing myself trying to do more work than usual).
6. Is it worth continuing to collect data in this manner, or are there any other missing points in the data collection that may be useful?

# Questions from data scientist to stakeholder:

(Yea, questions from myself to myself I know… These are questions that come up during analysis, to acquire more context surrounding the data, and to better generate insights)

# Document Logs:

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| Change Date | Reason |
| 9/9/24 | Creation of document. Articulating my reason for the project, and explicitly stating the questions I want to answer. |
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