PoDoc_Script

Problem in Hong Kong:
According to an article of TimeOut, more than 2.8 million people, especially young adults, suffer from poor sleep quality which leads to high prevalence of metabolic syndrome. Our team decided to come up with application "millistep" to break this cycle within the young adults.

Introduction to our application:
"millistep" generate healthy habits to improve user's sleep quality and lifestyle through three approaches. Firstly, by using user's health data to rank factors that affect user's sleep quality, "millistep" predicts user's future sleep quality. Then, "millistep" informs the users about their optimal number or duration of factors. Finally, it suggests challenges to tackle user's poor lifestyle behaviors. As developing new habits is difficult, "millistep" makes the users pay a deposit which can be returned after a successful completion.

Service flow before coding:
So how does our app work?Firstly, users need to create their account and put their necessary user information to start our app.

And then users can agree or disagree with sharing their data. If the users disagree to share their data, they are only provided with random challenges. If they agree, these are the data we will be collecting through IOT devices such as their phone and apple watch for a month. And they will be asked to rate their sleep Quality satisfaction level (SQ) every morning with one of the 5 face emojis. Then our app will be able to give prediction, reminder, recommendation, relations, and challenges.

To test our system, we have actually recorded our own data for a month. We have collected thd following data, and have also recorded our satisfactory level each day.
We will select one person's data, dowon to show how it actually works with coding.

Service flow (coding)
So when Dowon's one month data is run with our code, it will predict his satisfactory level 1 to 5 based on the accumulated data.

If Dowon uses his phone for 4 hours, our model will predict his satisfactory level to be 3.23 with the average predicted error. It successfully predicts all factors, and gives personlaized reminder and recommendation when necessary. For example, If Dowon has only 5 ho.urs of sleep, it will predict 1.66 Then our app will remind him of this prediction and recommend how much sleeping time is required for him to be satisfied to certain level, and also provide challenges to solve this. it works for all factors.

Our system was also able to find hidden variables that are not obvious but might affect users' sleeping quality, such as factors like humidity, the time of sunrise and day of the week for this

example, and we were able to find the correlation. Lastly, the app shows which of these factors have the biggest effect to each users.

Service Flow (Dowon):

To look for other relations, we used"doubleFactor" program which calculates the effects of two different types of health data on the sleep quality. First, the program categorizes the relationship of two factors as shown in the slide. Next, the program derives most preferred relationship where the sleep quality of user will result in either 4 or 5.

After the data analysis, personalized challenges are provided.

So how does our challenge work? To participate, Users can deposit 50 to maximum 1000 dollars.If a user completes the challenge by less than 85%, the user will receive partial refund proportional to completion rate. Those who have completed more than 85% will receive full refund, and those with 100% will also have extra prize distributed from the collected deposit that unsuccessful users have lost.

To verify their challenge completion we use "imageToText" program which utilizes the optical character recognition or OCR API to read text from an image file.

Revenue Stream:
Millistep has 2 main streams of revenue. From the users, we are able to collect their health data, and this data is de-identified and tokenized to be sold to insurance and pharamaceutical companies.

Another stream of revenue is through displaying third party company advertisements. We will be able to keep our service free without the requirements of subscription fees, encouraging more people to download our app while having a steady flow of revenue.

Cost Structure:
Millistep has 4 main cost structures, and the biggest proportions come from mobile app development and app maintenance fee. Other variable costs will include database server and marketing fee.

Financial analysis:
Millistep is hoping to achieve 20000 monthly active users in 2 years. This is the projected increase in users based on other fitness-related apps in HK. Assuming that we are able to generate quality leads from about half of our total users and gain additional revenues from in-app advertisements, we are able to pass the break-even point after 2 years.

Competitors:
Unlike our potential competitors as shown here, Millistep's service spans over both lifestyle and health. Furthermore, the users are motivated to develop healthy habits through locking money into their account to complete personalised challenges.

Future prospects:

We aim to expand our service to tackling other aspects of lifestyle - such as exercise, diet, and mental health.

In near future, we aim to increase our revenue stream by collaborating with other companies in developing new challenges that encourage users to use their products.

After that, we aim to expand user data collection methods from IoT devices to identify factors that are indirectly related to health. (The examples: GPS to track movement of the users, Calendar: Aalyze user's daily workload, Recept analysis: Gain insight on diet and spending patterns)

We aim to develop community function after gaining 20,000 users on our platform. From this, the users will be able to create their own challenges, react and follow other users for motivation. By moving this community to Metaverse later in the future, the users will be able to meet, communicate and complete online challenges together.

Conclusion:

You will be one step closer to living a healthier life through Milistep. Discover and develop habits in the most effective way.