Problem Exploration

In general, I believe user drop-off could be caused by two main factors, which could be split into sub-factors:

1. The app does not meet user expectations. Which could be caused by the following factors:
    1.1. There is no demand for such a product;
    1.2. There is demand, but the app does not have useful content;
    1.3. There is demand and the app does have useful content, but users cannot find it. It could be because of bad UI, bad recommendation or search engine, etc. Thus users are still leaving it.
2. The app does meet user expectations, but they drop-off it soon because:
    2.1. They read & learn useful content for them, and they stop seeing reasons to keep using it. This might be caused by different reasons: Non-updating content, or bad UI (e.g. this could cause them to switch to Youtube to watch training exercises). So in this case we are failing to create a user's habit to use the app;
    2.2. A simple reason could be that the content which they needed to use the app for - is not engaging. Thus the app finishes its purpose for them. A simple example of this could be a book. I believe the more interesting a book is, the sooner it is dropped off. Because readers can't leave it before finishing. But once they read it, it's done. In this case, we have a similar problem as in 2.1 case, but with a little bit different set up: we are failing to create a user's habit to use the app.

Identifying which is the case between #1 - #2 is very important to build strategy. From the given information that users use the app for the first two weeks, makes me think that we must have a problem illustrated between 2.1 and 2.2 cases. This could be verified by checking the users' activity and tracking what they used the app for during this initial period. Analysing users' activity statistics, could help to identify the problem type: bad UI, non-engaging content, short lifetime of the content (reference to the book example), etc.

For now, I will assume that the company has been tracking users' activity and we have data for analysis. I will assume that you provided me data, which includes time spent statistics per each user per program. I am going to assume that, after statistical analysis and plotting,

this data shows that for the first 2 weeks, users actively spend most of their time on only one program. But the time spent on this program decays each day and after two weeks reaches zero, so users' interest drops. This discovery might be proof that the users just learn one program and lose interest in the app, like in the book example. Now let's discuss how this data could be used, and how we can address this issue.

Solution Proposal

The discovery could be used to:

1. Build a recommendation engine for new users. New users with similar attributes/demographics could be suggested with the topics that were popular among the same group/cluster. Such engine could be used for a simple re-ordering of the "programs" list within the app's UI, or in some other way. I am going to implement a small example of such engine using the toy dataset.
2. We can make programs more engaging to keep users using the app by adding new AI or non-AI features. For example, we can create an AI coach that will be guiding users 24/7 and helping them with new exercises, training methods, and recommending new diet programs. I will list all my ideas below, but I am not going to implement them today; those are fictional ideas for the future.

For #1: I was able to extract which programs were the most popular for each user from your data. Of course, I generated this toy sample data myself. Using this data, I will be able to simulate a simple recommendation engine, which is based on user clustering.

For #2: create 24/7 wellness AI assistant, an AI couch, an AI Life companion.