Dictionary

Set is a series of reps of an exercise done in sequence (usually without rest).

Repetition (rep) is one completion of an exercise, such as one deadlift, one bench press, etc.

Description of the "Training" business process

　　"Training" business process describes ...... a single training at SmartGym after successful online registration and getting work out plan in the mobile application from a personal trainer. If you worked out, you know that sometimes it's hard to keep track of times of repetitions that you need to do on specific exercise equipment. Taking notes after every set* to keep track of your results and to go along with the workout plan takes your precious training time and makes you distract. Therefore, SmartGym uses "Smartener" – device that keeps track of your exercising along with mobile application. Smartener (a lane in the "Tracking system" pool) is installed on every exercise equipment, so it could count repetitions of a bodybuilder and notify when the needed repetitions are reached by sending the signal to the bodybuilder's smartphone.

　　A Smartener devise has two types of wireless technology:
- NFC (Near Field Communication) – for pairing a smartphone with a Smartener device;
- Bluetooth – for fetching the data that is monitored during one set.

　　Smartener device has an RGB LED that can be green, yellow or red. In the idle state, it is green. When a client wants to connect his phone with a Smartener, he presses a button on a Smartener and the green light slowly flicker. It shows that the device is waiting for pairing with a smartphone. In case if the client will not pair his phone for one minute after pressing the button, the RGB LED turns red for 3 seconds with accompanying sound and after that, the state becomes idle. In case of successful pairing, the light of the RGB LED becomes yellow that means that Smartener monitoring the exercise (number of repetitions and time). When the client is done with the set, he presses the button on a Smartener and the data is transmitted through Bluetooth to the mobile application where work out statistics are kept.

Training

Trainer

Client

- Ask questions
- Receive the consultation
- Open work out plan in mobile application
- Is there a need of personal consultation with a trainer?
  - Yes
  - No

Gateway does not have data to evaluate this -1

- Connect with a Smartener of the next work out equipment
- "Waiting for synchronization is over"
- Get the notification that the smartphone was paired with a Smartener
- Complete the set
- Notification with number of completed repetitions is received
- Proposition to enter completed repetitions is received
- Enter the number of repetitions
- Receive notification regarding next exercises
- The workout plan is fulfilled and training is over
  - Yes
  - No
- Are there any exercises left?

Mobile application

- Send notification that the phone was paired with the Smartener
- Receive a signal representing successful pairing
- Send notification with proposition of manual entering the reps
- Receive the number of completed reps
- Save completed set
- Work out statistics
- Send notification with proposition the next exercise
- Was it the last set in the work out plan?
  - No
  - Yes
- Send notification about finishing the plan
- Generate push-up notification about finishing the set
- The user is notified that he has reached the needed repetitions

Smartener

- The button for synchronization was pressed
- 1 minute
- "Waiting for synchronization is over"
- The NFS signal is gotten from a phone
- The phone was paired via NFC
- RGB LED turns red with appropriate sound
- Until the client stopped the set by pressing the button on the Smartener device
- Monitor speed of exercising and number of reps
- Connection lost
- Needed number of repetitions is reached

Related signals are not part of this model.

It would be probable easier to model client as blackbox.

Result: 11