Assignment M2

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***Abstract*— Daily exercise is an important part of a healthy routine. Being able to analyze and plan weight training workouts will usually lead to better results and more long-term success. A key component of planning future workouts is tracking past workouts. This paper will investigate the task of recording weightlifting workout metrics during a workout. It can be difficult to remember what exercises and weights were done in a past session or to constantly write them down, so there is a tangible benefit to streamlining the recording process. Tracking the exercise performed, muscle groups targeted, and weight and repetition range are the general performance indicators that can be used to monitor progress and build upon for future workouts.**

1 NEEDFINDING EXECUTION 1: SURVEY

1.1 Summary of Results

The goal of the survey was to ascertain high-level information about the type of individual that participates in weightlifting, their perceived experience and skill level, then the corresponding metrics that they track. The full survey results for the 25 responses can be found in Appendix 7.1, but the key numeric takeaways can be found below:

- 10 respondents have one to three years of weightlifting experience
- About half of respondents weightlift one day a week or less, while the other half weightlift two or more days a week
- The majority of respondents were between the ages of 18-29
- Seven individuals used a combination of phone applications, fitness trackers, and handwriting to track metrics. Of the seven who selected "other," many said that they just remembered their weightlifting metrics by hand
- 19 respondents said they tracked weight range and some combination of other metrics, including heart rate, repetition range, type of exercise. Only two individuals indicated that they did not track any metrics
- Six respondents found it easy to track metrics, while 19 found the process to have a high or medium level of difficulty

1.2 Key Takeaways

The results from this survey are very telling, both at a high level and through a deeper dive. On the surface, most people who cared about tracking metrics were younger individuals who weightlift three or more days a week. Generally, a variety of methods were used across a variety of ages and skill levels, ranging from fitness trackers to handwriting exercising metrics. Additionally, repetition range was the most commonly tracked, but most individuals track more than one metric at once. Diving into the free form text, most individuals who found it to be a medium or high level of difficulty mentioned automating the tracking process, grouping similar historical exercises, and the ability to customize the interface.

The survey indicates that blending some combination of the current tracking methods would be beneficial across all demographics. No matter the skill level and workout frequency, there is at least some benefit to tracking weightlifting metrics, as all demographic groups found use in it. There appeared to be no clear distinction between skill level and the number of metrics tracked, thus signifying that many metrics can be tracked, while the most important ones should take the highest priority when returning to the user. Lastly, historical data, muscle groups, and customization are important.

1.3 Bias Mitigation

To mitigate bias that was identified in assignment M1, I avoided asking leading questions by adding an "Other" category and allowing users to provide additional context if their options were not available. On that note, I also had several questions that allowed users to select multiple options, especially around metrics and tracking methods. Moreover, the survey was given to a wide variety of individuals, ranging in skill level and workout frequency.

2 NEEDFINDING EXECUTION 2: THINK ALOUD PROTOCOL

2.1 Summary of Results

For the think aloud protocol, I was able to interact with three individuals that ranged in skill level and workout frequency. While this was a moderate success, I wish I could have worked with even more individuals, including advanced weightlifters. The goal of this needfinding exercise was to understand how individuals engage with weightlifting, which can be used to determine how and when recording information would be best. The observation and think aloud process was split into two segments: the "pre-workout" planning period and the actual workout itself. The full results can be found in Appendix 7.2 and the high-level results are below:

- Not all participants planned their workout beforehand. There was a mix of some who meticulously used past workout data to plan new workouts and others who relied on memory
- All participants used a fitness tracker such as an Apple Watch or Fitbit in addition to their cell phone. The participants all started their watches at slightly different times when starting their workout and participants listened to music and had their headphones in
- Most individuals used their watch to keep track of rest time and overall workout time, while calories or other metrics were of less importance in the goal of accomplishing a weightlifting workout. Heart rate was a secondary metric looked at and used over varying levels
- During the workout, the participant who recorded the most information used the time in between sets to do so
- When adjustments were made in the middle of a workout, some participants recorded the changes, some did not

2.2 Key Takeaways

From this exercise, it was clear that planning a workout can be tedious. It was not done by all individuals, but there is a benefit to using historical data to make new workouts. During a weightlifting workout, the main focus was on the exercise itself, including things such as form. Most of the cognitive load was on the task at hand and it was where most of the mental energy was placed. The interaction with the phone and watch were auxiliary to the main task of exercising, thus reinforcing that the cognitive load for any interface should be minimized

2.3 Bias Mitigation

To mitigate bias, I made the clear distinction of the observation's sessions clear to ensure the participants knew what was going on. I kept questions general to allowing the participant to do most of the talking and explanation for their actions. To reduce observer bias, I did my best to record their actions objectively, but also usher the questions in such a way as to have their words describe a full picture as well.

3 NEEDFINDING EXECUTION 3: EVALUATION OF EXISTING INTERFACES

3.1 Summary of Results

For this needfinding exercise, I focused on various phone apps that are used to track weightlifting metrics. From the survey, it was clear that most individuals used their phones in some capacity,

so I selected apps with a multiplicity of features, price, ranges, and skill levels. The results are below:

Table 1 — Comparison of Weightlifting Tracking Apps

App Name	Cost	Rating	Features	Metrics Tracked During Workout
Simple Workout Log (	Free	4.8 stars	Simple interface, mimics a paper notebook	Exercise, sets, reps, weight
Jefit	Free (has optional in-app purchases)	4.8 stars	Ability to search for and plan workouts, past workouts tracked and remembered, videos for each exercise, built in timer	Exercise, sets, reps, weight, 1RM, time
STRONG	Free (has optional in-app purchases)	4.9 stars	Ability to plan workouts and use past data, can manually record in depth metrics and view history, has instructions and images for exercises	Warm up, notes on a set, rating, exercise, sets, reps, weight, time/duration
Gymaholic	Free (has optional in-app purchases)	4.6 stars	Augmented reality trainer, 55 stats and measurements to manually track for progress, animations to show exercise	Sets, reps, rest, weight, exercise
Fitbod	Free (has optional in-app purchases)	4.8 stars	Highlights muscle groups, exercise videos, smart watch integration, custom workout generation	Exercise, sets, reps, weight, warm up set, rest, total duration

3.2 Key Takeaways

This was a useful needfinding exercise to really understand the breadth of workout apps that are on the market currently. It was interesting to compare them, and it was broadly beneficial and successful. Many of the highly rated or highly downloaded apps shared similar features – being able to track many metrics. What I found particularly interesting was that the best apps had simple interfaces during the actual workout but had extensive features other than just in-workout tracking, thus highlighting the importance of a holistic view.

3.3 Bias Mitigation

To reduce selection bias, I tried to survey a variety of apps that appeared throughout all the charts and popularity levels. Additionally, I intentionally tried to search for apps geared to a variety of skill levels, from novice to advanced and tried to survey apps that tracked different metrics. Lastly, I selected apps that ranged in complexity for users and some that had interactive features. Although all the apps I selected are free, understanding some in app purchases would have provided a more in-depth analysis.

4 DATA INVENTORY

The needfinding exercises provided a comprehensive assessment of the data inventory and provided the basis for a strong foundation going forward. The main focus of this investigation was to observe individuals who weightlift and determine how, they track metrics, if at all. **The main users are both males and females under 30 who have a variety of weightlifting experience and lift at least two days a week**. Most of this information came from my survey and think aloud session. The from the survey, I was able to surmise age, experience, and weightlifting frequency. However, one thing that I missed out on for the survey is asking about gender. That was partially covered with my think aloud exercises, but it would have been better to get more data points for this through the survey. From evaluating existing interfaces, it was clear that a variety of skill levels, genders, and individual's workout and need to track their workouts.

Through the think aloud exercise, the **users mainly perform weightlifting indoors inside a gym, but can occasionally lift outside**. Gyms can be private, home gyms or gyms as part of a building, but most of the time working out is done individually. As with the previous point in the data inventory, it may have been better to include this type of question in the survey, but the in-depth observation and analysis through the think aloud session provided some context as to where the weightlifting occurs. In addition, **while weightlifting, individuals are often on their phones, are listening to music, and have the noises of others around them when indoors at a gym**. Typically, the actual action of weightlifting takes the most cognitive load, but individuals care about tracking weightlifting information through all of this, as evidenced by the think aloud exercise and survey. From the survey, all but two individuals tracked at least one metric while lifting and some even used a combination of interfaces while exercising. Through all this though, **the main goal of the user is to complete a workout as efficiently as possible**. This was evidenced most clearly in the think aloud and existing interface evaluations. Participants reinforced concepts such as minimizing wasted time, tracking rest periods, and timing workouts to ensure

a timely completion. Moreover, all the apps compared shared one central purpose – to track a workout.

In order to accomplish the goal of completing a workout, typically users need to have a plan for the workout that they execute, in addition to weights, bands or a space to workout. This can come in the form of planning exercises generally to having specific muscle groups, weight ranges, repetitions, and other tactics organized from the beginning. In the think aloud exercise, some participants discussed this in-depth planning, but the commonality between all individuals was at least knowing what muscle group and exercises they were going to complete in the session, even if they were not written down. To supplement this assertion, many of the apps on the market currently have workout planning features or search capabilities, including using previously recorded workouts and weight ranges to feed into workout generation.

As part of their main goal of weightlifting, users record or remember key metrics about their weightlifting session. As shown in the think aloud exercise, most of the cognitive load of the session is put on focusing the action of weightlifting, but the recording or remembering of place in the workout is important too. Concurrent to the weightlifting, all participants were listening to music and the physical movement was to lift weights and machines. There are also the external distractions of other noise in the gym and possible phone distractions. **Some of the subtasks like considering rest time, recording weight, and measuring intensity to ensure a proper workout are done in between sets**. This information came from the thinking aloud exercise and the comparing the existing interfaces. It may have been helpful to do an observation session or expand the survey to get a more holistic picture, but these activities seemed to suffice. Participants in the think aloud portion described what actions they take during the weightlifting session and when they record or adjust their workout, while the interface comparison reinforced what metrics were collected, ranging from weight to rest time.

5 DEFINING REQUIREMENTS

Based on the needfinding exercises, in order to meet the goal of a successful weightlifting workout. Regarding functionality**, the interface must track key metrics such as weight, repetitions, exercise, perceived difficulty, rest time, heart rate, and total exercise time**. These are the recurring, fundamental components that are vital both during a workout and for future planning. In addition, **the interface must be as automated as possible and reduce manual entry, in order to maximize focus on the task at hand of weightlifting**. **The interface should also generate workouts based on historical data and have instructional guidance on how to do exercises in order to accommodate any user type**. To evaluate the success of a prototype, *I would*

measure how long an end-to-end workout process, including planning, takes before and after using the app, where a decrease in time would be deemed successful. In addition, reducing the interaction and manual entry and comparing the number of times that has to be done before and after implementation of the interface would be key.

6 CONTINUED NEEDFINDING

While the first round of needfinding was thorough, there are still several areas of this process that can be expanded upon. A general question that has come up is how often and to what degree individuals interact with their phones during the actual weightlifting process. How often are individuals tracking their weight and do other phone apps get in the way of doing that? This can participant observation to help shine a light on a participant's thoughts. In addition, to get a better idea of subtasks and desired features in an app, interviews could provide valuable insight.

7 APPENDICIES

7.1 Survey Results

SURVEYS

Open Surveys

Your Surveys

Responded Surveys

MY ACCOUNT

Logout

SURVEYS

Survey Responses

Weightlifting Metrics Survey

This survey is to get a broad understanding of weightlifting metrics tracking.

CSV

response,Q1,Q2,Q3,Q4,Q5,Q6,Q7,Q8,Q9
1,18 - 29,Novice (new to exercising),Less than one day a week,Weight range;Time of each repititon;Type of exercise,n/a,Other,Mentally,Medium - I am able to do it some of the time and it requires some effort,"One regiment that always works for gains, regardless of personal weight, time, or experience."
2,18 - 29,Beginner (1-3 years exercising),two to three days,Heart rate;Type of exercise;Other,Calories burned ,Fitness tracker/smart watch,N/a,Medium - I am able to do it some of the time and it requires some effort,Technology
3,18 - 29,Advanced (5+ years exercising),three to five days,Weight range;Repititon range;Type of exercise,N.A,Fitness tracker/smart watch;Other,I usually memorize things because of how cumbersome it is for me to have to

JSON

[{"id":"1623621300191","text":"Select your age:","answers":["18 - 29","18 - 29","18 - 29","18 - 29","18 - 29","18 - 29","18 - 29","18 - 29","50 - 64","18 - 29","30 - 39","30 - 39","30 - 39","18 - 29","18 - 29","50 - 64","18 - 29","65+","18 - 29","18 - 29","30 - 39","18 - 29","30 - 39","30 - 39","30 - 39"]},{"id":"1623621299002","text":"How would you classify your skill level with exercising? ","answers":["Novice (new to exercising)","Beginner (1-3 years exercising)","Advanced (5+ years exercising)","Advanced (5+ years exercising)","Intermediate (3-5 years exercising)","Beginner (1-3 years exercising)","Beginner (1-3 years exercising)","Beginner (1-3 years exercising)","Beginner (1-3 years exercising)","Intermediate (3-5 years exercising)","Intermediate (3-5 years exercising)","Beginner (1-3 years

Select your age:

1. 18 - 29
2. 18 - 29

3. 18 - 29
4. 18 - 29
5. 18 - 29
6. 18 - 29
7. 18 - 29
8. 18 - 29
9. 50 - 64
10. 18 - 29
11. 30 - 39
12. 30 - 39
13. 30 - 39
14. 18 - 29
15. 18 - 29
16. 50 - 64
17. 18 - 29
18. 65+
19. 18 - 29
20. 18 - 29
21. 30 - 39
22. 18 - 29
23. 30 - 39
24. 30 - 39
25. 30 - 39

How would you classify your skill level with exercising?

1. Novice (new to exercising)
2. Beginner (1-3 years exercising)
3. Advanced (5+ years exercising)
4. Advanced (5+ years exercising)
5. Intermediate (3-5 years exercising)
6. Beginner (1-3 years exercising)
7. Beginner (1-3 years exercising)
8. Beginner (1-3 years exercising)
9. Beginner (1-3 years exercising)
10. Beginner (1-3 years exercising)
11. Intermediate (3-5 years exercising)
12. Intermediate (3-5 years exercising)
13. Beginner (1-3 years exercising)

14. Novice (new to exercising)
15. Beginner (1-3 years exercising)
16. Novice (new to exercising)
17. Advanced (5+ years exercising)
18. Intermediate (3-5 years exercising)
19. Advanced (5+ years exercising)
20. Intermediate (3-5 years exercising)
21. Beginner (1-3 years exercising)
22. Advanced (5+ years exercising)
23. Advanced (5+ years exercising)
24. Beginner (1-3 years exercising)
25. Advanced (5+ years exercising)

How many days do you exercise a week?

1. Less than one day a week
2. two to three days
3. three to five days
4. three to five days
5. three to five days
6. two to three days
7. Less than one day a week
8. three to five days
9. one day
10. Less than one day a week
11. two to three days
12. two to three days
13. one day
14. one day
15. one day
16. Less than one day a week
17. six or more days
18. two to three days
19. two to three days
20. six or more days
21. three to five days
22. three to five days
23. six or more days
24. Less than one day a week
25. Less than one day a week

When weightlifting, what metrics of your workout do you track, if any?

1. Weight range;Time of each repititon;Type of exercise
2. Heart rate;Type of exercise;Other
3. Weight range;Repititon range;Type of exercise
4. Weight range;Rest time;Type of exercise
5. Weight range;Repititon range;Heart rate;Rest time
6. None of these
7. Weight range;Type of exercise
8. Weight range;Repititon range;Rest time;Perceived diffiuclty of exercise;Type of exercise
9. Weight range;Repititon range;Heart rate;Perceived diffiuclty of exercise;Type of exercise;Other
10. Weight range;Repititon range;Perceived diffiuclty of exercise;Type of exercise
11. Weight range;Repititon range
12. Weight range;Heart rate
13. Weight range;Type of exercise
14. Weight range;Repititon range;Perceived diffiuclty of exercise;Type of exercise
15. Weight range;Time of each repititon;Perceived diffiuclty of exercise
16. None of these
17. Weight range;Repititon range;Heart rate;Rest time;Perceived diffiuclty of exercise
18. Heart rate;Rest time
19. Weight range;Repititon range
20. Weight range;Repititon range;Type of exercise
21. Heart rate;Type of exercise
22. Weight range;Repititon range;Rest time;Perceived diffiuclty of exercise;Type of exercise
23. Weight range;Repititon range;Perceived diffiuclty of exercise;Type of exercise
24. Weight range;Repititon range;Rest time
25. Repititon range;Rest time;Time of each repititon;Perceived diffiuclty of exercise;Type of exercise;Other

If you selected other above, list what metrics you track. Otherwise, enter N/A.

1. n/a
2. Calories burned

3. N.A
4. N/A
5. N/A
6. N/A
7. N/a
8. N/A
9. Muscle soreness or pain after workout
10. N/A
11. N/A
12. NA
13. N/A
14. N/A
15. N/A
16. N/A
17. Didn't select other.
18. N/A
19. N/A
20. N/A
21. N/A
22. N/A
23. N/A
24. N/A
25. Progression level (for calisthenics, e.g. push ups on knees vs regular vs one arm...)

How do you currently track your metrics?

1. Other
2. Fitness tracker/smart watch
3. Fitness tracker/smart watch;Other
4. Fitness tracker/smart watch
5. Phone application;Fitness tracker/smart watch
6. Other
7. Phone application
8. Phone application
9. Phone application;Fitness tracker/smart watch;Hand write
10. Hand write
11. Hand write
12. Phone application;Fitness tracker/smart watch
13. Other

14. Phone application
15. Hand write
16. Other
17. Phone application;Other
18. Fitness tracker/smart watch
19. Hand write
20. Other
21. Fitness tracker/smart watch
22. Phone application;Other
23. Other
24. Other
25. Hand write

If you selected other above, list what metrics you track. Otherwise, enter N/A.

1. Mentally
2. N/a
3. I usually memorize things because of how cumbersome it is for me to have to open up an app or write in some kind of journal mid workout. It adds quite a bit of time to my workout.
4. N/A
5. N/A
6. I do not track
7. N/a
8. N/A
9. N/A
10. N/A
11. n/a
12. N/A
13. Mostly just memorize it
14. N/A
15. N/A
16. N/A
17. Mentally
18. NA
19. N/A
20. In my head
21. N/A
22. Phone app & Google Spreadsheet

23. Manually in my memory
24. Just remember
25. n/a

How would you rate the difficulty of tracking your weightlifting metrics?

1. Medium - I am able to do it some of the time and it requires some effort
2. Medium - I am able to do it some of the time and it requires some effort
3. Medium - I am able to do it some of the time and it requires some effort
4. Easy - I am able to do it for every workout, every time
5. Medium - I am able to do it some of the time and it requires some effort
6. Hard - I do not track metrics often and it is difficult to do so
7. Medium - I am able to do it some of the time and it requires some effort
8. Easy - I am able to do it for every workout, every time
9. Medium - I am able to do it some of the time and it requires some effort
10. Hard - I do not track metrics often and it is difficult to do so
11. Hard - I do not track metrics often and it is difficult to do so
12. Medium - I am able to do it some of the time and it requires some effort
13. Hard - I do not track metrics often and it is difficult to do so
14. Hard - I do not track metrics often and it is difficult to do so
15. Medium - I am able to do it some of the time and it requires some effort
16. Easy - I am able to do it for every workout, every time
17. Easy - I am able to do it for every workout, every time
18. Easy - I am able to do it for every workout, every time
19. Medium - I am able to do it some of the time and it requires some effort
20. Medium - I am able to do it some of the time and it requires some effort
21. Medium - I am able to do it some of the time and it requires some effort
22. Medium - I am able to do it some of the time and it requires some effort
23. Hard - I do not track metrics often and it is difficult to do so
24. Easy - I am able to do it for every workout, every time
25. Hard - I do not track metrics often and it is difficult to do so

What would make tracking weightlifting metrics easier?

1. One regiment that always works for gains, regardless of personal weight, time, or experience.
2. Technology

3. I think that I would like to prefill my metrics or have the machine that I am using track it in some way.
4. Checklist that "checks itself off" when you finish an exercise in a workout
5. Less manual entry, automatic tracking
6. Being able to quickly and easily record everything
7. N/a
8. A nice mobile friendly spreadsheet
9. I want to make weightlifting part of overall fitness so I'd like my metrics to integrate across devices and applications. For instance, if I could designate lifting and rest days, my smartwatch with HR monitor could provide HR, VO2, respiration and sleep quality metrics as byproducts of the workout. A quick check-in from Daylio on overall mood and feelings could represent how the exercise and rest make me feel. I can manually combine these data points but I would have a much better overall picture of the exercise and recovery periods by integrated metrics.
10. Better UI
11. If there were an easy app with a pre-determined list of exercises that are easily searchable so I can just select an exercise, the weight and rep #.
12. NA
13. Having an app to record the metrics could help
14. Remembering my previous results / trends for similar exercises
15. An app to automatically tell me exactly what I need to do for what time and what expected progress I should be making.
16. I do not weight lift
17. I think it's best not to track too closely if you are experienced. Better to listen to your body.
18. The smartWatch
19. A great weightlifting application that wasn't a pain to use on the fly when in the gym. It would be preferable if the application could also provide statistical information regarding the weight lifting sessions from time to time.
20. Phone app tied to smartwatch
21. None
22. A configurable dedicated app
23. Having a tracker automatically track my metrics
24. May be a tracker application? It should be customizable enough
25. Highly customizable app that I can make conform to my mental model of metric tracking. Decluttering exercises I consider irrelivant.

7.2 Thinking Aloud Protocol Notes

Think Aloud Protocol

Participant 1

Participant Information

- Male, 22 years old
- Intermediate lifter (3-5 years experience)
- Workout environment: outside

Pre-Workout Process

- Make sure hydrated, at least a liter of water before he goes
- 20 min drive to the gym, so stretch a little bit beforehand depending on the type
- Eats a cliff bar and banana beforehand
- Does these pre-workout routines because:
  - Prevent injury
  - Peak performance
- General workout routine: upper body twice a week and lower body twice a week
- Has pre bulleted list of exercises on notes app on phone
  - The list is split up based on muscle group
  - The notes app has reps and sets (4-5 sets, reps range between 5-15), but this information is memorized
  - Generally, not much pre-work is done regarding historical data, just looks at list before starting work

- Always go in same order for exercises, plan it based on the day

Workout

- Look at pre-bullted list upon going outside so that he can efficiently use time at the gym
  - Do them in certain order to work each muscle best he can
  - Start with bigger muscle groups or cycle through them so that you do not tire out one muscle group
- During workout, took sips of water in between sets
- Stretched first and did some warmups while turning music on
- Started watch after warmups
- Kept phone in bag during duration of workout
- Watch was a Fitbit — shows heart rate, calories, time, exercise zone (fat burn, cardio, etc)
- Superset exercises
- Used watch to track rest periods — approx 45 seconds between sets, but sometimes 60 seconds if a compound lift
  - Emphasized not wanting to to waste time — too long of a break, not wasting time
- For machines, will do 2 or 3 reps to warm up and engage muscles, then do workout
- Occasionally glances at heart rate just to see what it is, does not use it to alter workout
- When he was a novice, he used to look up how to do exercise and how to do routine
- Just remember and know limit from week before, take it by feel from what he remembers week before
- Did not write down weights or reps during the workout
- Carry bag from place to place while working out
- Based on what is available, changes exercise or order of lifts so that time wasted is minimized

Participant 2

Information

- Female, 25 years old
- Intermediate lifter

Pre-Workout Process

- Plan workout
  - Depending on how busy life is, will change workout routine
  - 3 day split — upper, lower, core/whole body
  - Google new things to do and find exercise to learn
  - But will do classic stuff that you are familar with
  - before going to gym, will have list in phone of exercises, weight, reps and check off as she goes (Notes app)
  - Each muscle split has its own note
    - she uses note/weight and reps from previous note to plan next worout
  - Why her process is like this
    - ease/flexibilty
    - she like structure, but not too much structure

Workout

- During steretching, no watch looking
- Hold each for 20 seconds and repeat
- Now that stretch has started, weight training, start workout on Fitbit
- Looks at mirror for form
- Before starting an Look at notes app, then add weight to bar, then perform exercise
  - Do it after your comfortable — go up 10 lbs, see if could handle, then if not, tyr 5

    - During workout during rest — go back to notes app — add difficulty — example, "120 too difficult, write in notes app"
    - Everything in notes app is bulleted list
    - sumo squats, 4X12X100, then write "tried 120, did 110"
- Watch interaction
    - check heart rate — don't want to be too crazy
    - time rests with watch to make sure take enough rest and not
    - Look at overall time of workout to gauge whereat, want to do 30 or 45 mins etc
    - use it to see if need to put more effort time or heart rate wise
    - if doing cardio, look at steps steps
- How to use heart rate — compare what shes doing now to other workouts
    - EX — know baseline (60bpm), want it to be 100 if weightliftings
    - 130-140 cardio, 110 poweryoga
    - very general scale of how hard or easy

Participant 3

Participant Info

- Female, 28 years old
- Beginner lifter

Pre-Workout process

- App that generates workouts based on gym equipment
- But dont like to pay for it, so use free version and customizes exercises based on what she feels most comfortable with
- Do it when needed
- "Find sequence I like then get it"

- Dont always create new sequence because takes a while to find exercises that I feel confortable doing
- "Night before, in bed so that when i wake up dont have to think about it"
- Free version of app does not let you record things
- Dont usually record deviations from it
- If i do something other than what is says, just modify it on site and keep mental check (ex, if app says 15 lbs and it is too easy, then i do 20 and do not record it)
- Pick out clothes, lay them out night before, make sure they're clean

Workout

- warm ups
  - walkouts, minus the pushup
  - Likes them because gives stretch
  - learned it from personal trainer
  - DO warmup that feels good and makes you feel strong
  - Try to make an active effort to warm everything up
- Like to do lower body everyday
- FInd first thing baed on what machine is available
- Superset
- Perform exercises outside app if equipment isnt avaialable or do not want to move a certain way

- Fitness tracker
  - use for calories and time
  - dont keep record of calories burned, but like to see in grand scheme of day how much was based in workout
  - Start watch right before warming up
  - All touch
  - Exrecise set is on home screen
  - Watch and phone being synched
  - like controling music, seeing metrics on watch, all historical info on phone is nice
- Exercise
  - go to bar, make it even, clear weights
  - 10 rep warm up with no weights
  - 1 warmup set, 3 full sets
  - slowly increment up until get to desired resistnace
  - Start with weight from phone — start with it, if its is too heavy or light, make modifications
  - Keep mental note of changes, but no
  - But when make workout, remember
  - On heavy days, rests are stretches
  - Do not time rests — rest until comfortable and catch breath, time does not matter
  - Get water during breaks
  - Drink whole bottle of water during whole morning workout or high intensity days
  - Look at phone to know what to do next and what weight
  - Never touch watch during workout, only care about total time,
  - Not adjusting workout in the middle
  - In app, put in difficulty, experience — spits something out, can overwrite manually when pre planning