Part 1: Group plan

- **Team members:**
  - Oliver Larsson (oliver.larsson@colorado.edu)
    - Primary contact point
  - Cory Flynn (cory.flynn@colorado.edu)
  - Bum Kim (bum.s.kim@colorado.edu)
- **Revised project description:**
  - All across America dog owners can sometimes feel the pressure to ensure their pet's health is sustained. There are challenges with ensuring our dogs are getting a proper amount of exercise and food as well as maintaining good signs of health.
  - In this project, an app paired with a dog suited device will be built to track the dog's daily steps, food intake, and resting heart rate. With this app, the user can monitor their dog's caloric intake and exercise to gauge the correct amount of food and exercise the dog should be receiving. The user will also be able to compare past data with new data to ensure steady progress. Resting heart rate will be tracked as well, allowing the app to eventually determine a personalized baseline. This statistic will give the app the information needed to notify the user if there is any change in their dog's overall health. The app will also request the input the weight and dog breed to make sure the dog is getting accurate recommendations concerning feeding and exercise, as this can vary from breed to breed and size to size. Users may also be able to compare their dog's steps and caloric intake with other dog owners' dogs. Feedback between users will allow for better tracking and even some competition. Competition would be a great element of the app because it will encourage users to interact with it more often. With this dog fitness app, pet owners can be more aware of their dog's overall health and wellbeing.
- **Meeting schedule:**
  - **Oliver is good for:**
    - Monday: After 3
    - Tuesday: After 1
    - Wednesday: After 6
    - Thursday: After 1
    - Friday: After 1
    - Weekends: Rather not but we can figure that out
  - **Bum is good for:**
    - Monday: 1-3 and 4-6

        - Tuesday: After 1
        - Wednesday: After 4
        - Thursday: 2-5
        - Friday: 10-12 and 1-3
        - Weekends: Rather not unless necessary
    - **Cory is good for:**
        - Monday: 12-1, After 5:15
        - Tuesday: 1-5
        - Wednesday: 12-1, After 5:15
        - Thursday: After 1
        - Friday: After 4
        - Weekends: nada
    - **Agreed upon meeting time:**
        - Tuesdays, 1:30pm-2:15pm
- **Group chat and documentation:**
    - iMessage
    - Shared Google folder -> https://drive.google.com/open?id=1B9T_JMemij4GygzMpIO_kn4LIwcwCROE
    - If we want a GitHub repo -> https://github.com/OliverLarsson/dog-project

Part 2: Research plan

1-on-1 Interviews

Our main users would be dog owners, so they would be our primary targets for interviews and any data collection in general. Our secondary data providers would be people who interact with dogs regularly, but aren't the actual owners. These people might be family members who live with the owner of a dog or roommates of a dog owner. It might also be useful to get data from people who walk other people's dogs or dog sitters to find out if they'd get any use from our app. Veterinarians would also seemingly benefit from having the data about the dogs exercise and eating habits, rather than just going off the dog owner's vague description of their dog's habits.

In terms of getting interviews with dog owners, it would be fastest if we interviewed people on our team who own dogs. After that, we would want to interview the next most accessible people which would be friends or acquaintances who own dogs. These are the people who will likely make more time and give more elaborate answers for our interviews. If we don't get enough data from those or if they data seems somehow skewed we would then move onto random strangers who are walking their dogs. These interviews would have to be more brief and less intrusive, so as to not take too much of their time and leave a favorable impression for a potential user. To be able to talk to dog sitters we'd first have to talk to dog owners who regularly use dog sitters and then ask them if we could talk to their dog sitters. Talking to a veterinarian might be a little more complicated because the only place that we could make contact with one would be at an animal hospital where they're most busy. Although another option would be to just email or call them and take just a couple minutes of their time to ask them really quick questions.

To dog owners:

Dog's age, size, and breed?

Would you put a watch on your dog?

How do you currently gauge how much food your dog needs?

How do you determine when to feed your dog?

How would you feel about putting a wearable tracker on your dog?

How do you check the state of your dog's general health?

How are are you about your dogs habits? (e.g. what time of day your dog seems more energetic or begs you for food)

Observation and Contextual Inquiry

The second data collection that we will need to conduct relates more to the subjects of this project – the dogs. In order to design a prototype that will allow us to track a dog's fitness, we have to understand how dogs of all sizes, ages, breeds, and sexes move on a daily basis. To most effectively gather information on this, seeing as we can't ask the dogs themselves about their habits, we must observe them. This observable data will not only be complemented by the 1-on-1 interviews mentioned above, but can also go hand-in-hand with contextual inquiry, since the owners/caretakers of the dogs whom we'll be observing will have plenty of insight on the observations we're looking to make. To guarantee the most efficient data collection, the contextual inquiries and observations will relate more to the dogs' movements, rather than the human's preferences, which will be the focus in the interviews.

To best conduct this portion of data collection, we will primarily focus on dogs at the Humane Society of Boulder. By visiting a shelter to gather data we maximize the observation variety, giving us a chance to analyze many kinds of dogs. This will also help with the paired contextual inquiry, seeing as the volunteers and employees of the Humane Society interact with a broader spectrum of dogs than most other people. Additionally, the pairing of observation and contextual inquiry will give us clarity on certain variables we are looking to obtain for each unique dog. Having an expert with us grants us the opportunity to ask questions on the go, request reassurance on topics we may not be familiar with, and ensure that the key issues we plan on observing are in fact important to a dog's health and the tracking thereof.

Some key variables that we will look for in our observations for each unique dog will be:

- Size (height, weight, length)
- Age
- Sex
- Breed
- Average walking stride
- Average running stride
- Average caloric intake
- Suggested dietary plan
- Any other breed-specific information a shelter expert may believe to be necessary to our project

The importance of these variables go back to our mission of tracking a dog's health through their daily steps and diet. Without this observable information, creating a product - or even a prototype - that complies and is effective with all dogs will be very difficult.