

Executive Summary

Overall, with this document, here are a few of the major points that have been made in regards to Health Buddies.

Project Parameters: Health buddies is an interactive, wearable device capable of connecting to mobile devices, which acts as a health monitor and digital pet. The device tracks your health and displays your pet's health according to your own decisions. We have created a consistent timeline which we have managed to follow throughout our development and our overall approach is based around using our research to alter the products external features to match the needs of a user, without compromising the core concept.

Our research Methods focused on understanding both the business and consumer sides of developing this product. We held a stakeholder interview, along with a focus group, both giving us valuable information detailed in the research category. Along with this we also performed a variety of interviews which helped us not only understand our demographics but also direct us in how to design the interaction, industrial, and visual components of our product. Finally, we did a competitive analysis of our products when compared to others, in order to better understand Where our product stood in the overall scheme of the market.

Overall, our team feels fairly confident in what we are trying to accomplish, our project has been going fairly smoothly with minimal hiccups, and we're gradually hitting each of our deadlines as expected. Our main concern in terms of risks is how much we rely on consumer research for the product's external design, along with how gamification could always muddy the core concept for the product. However, with these issues in mind, we can begin to take steps to ensure these risks are minimized.

Introduction of the product idea and its project parameters

The idea of our product is rather concise, a wearable device containing a digital pet, that also functions as a health monitor, with the added bonus of having the pet's health correlate with the decisions monitored by the user.

Activity	Timeframe
Design Research	March 17, 2020
User & Domain Analysis (U&DA) Complete	April 9, 2020
Development of Requirements and Context Scenarios	April 9, 2020
Development of Framework and Design Language	April 14, 2020
Form & Behavior Specification (F&BS)	April 16, 2020
Detailed Design Development	April 23, 2020
Deliver Final Design and Presentation	April 28, 2020

Our overall approach is mostly based around using our research to better understand how we want our users to interact with the device, how much is left open to customization vs how much we curate being one of the first challenges. Overall, we mostly approach the project with the users interests at the forefront, how we further design things all comes down to what they want, though profitability is also a factor.

Research methods and rationale

We conducted a brief stakeholder interview to get answers about the business side of the product to influence our design. By asking questions about marketing and sales, we can make sure we design our product so it will be profitable. Next, we conducted a focus group of four college students, since we felt college students would be likely to use our product. We asked them about their experience with fitness devices to give us a better idea how our device should function. We also asked them about their design preferences with technology in general to get a better idea of how different design choices make users feel.

Next, we conducted individual interviews with a college student, a gamer, two trainers, and three athletes. Questions ran along the lines of their current fitness routine, how they would use a fitness tracker, their experiences using different apps, and how different color schemes made them feel. These interviews were meant to direct us in how to design the interaction, industrial, and visual components of our product.

Next we did a competitive analysis, comparing the different features of three different popular fitness trackers in order to find the best combination of features for our device to have. Finally, we did a short survey to find out how different color schemes made people feel to influence the visual design. This survey also had people choose between less saturated color schemes and brighter ones, to see which type people are more drawn to.

Summary of research findings

We found in our stakeholder interview that our product should be designed to be cute, fun, and motivating for users. We also were told that our design should appeal to a younger market, namely teens and young adults. From the focus group, we learned that our target demographic values accuracy and personalization with their devices. We also found that they prefer their physical devices to be simpler, they would rather control features through an app. Finally, we found that the focus group participants associate pets with responsibility and motivation.

Across all individual interviews, we found that people become frustrated with apps that have a complicated user interface. We also found that people are most motivated by color schemes that feature their favorite colors, although most thought that the more monochromatic color schemes were boring. More specifically, we found that the college student we interviewed wanted to be able to track their nutrition so that they can try to eat healthier on campus. The gamer we interviewed told us that they are most motivated by games that feature daily or weekly challenges to encourage them to keep playing the game. They also mentioned that they are fine with microtransactions, if the major features of a game are free. We found in the trainer interview that trainers would be interested in using fitness trackers to track the progress of their clients, but that trainers would prefer to motivate people through encouragement instead of guilt. Finally, we found that athletes would enjoy using fitness trackers to track their progress and to make sure that they are training correctly, as long as the tracker is designed so that it is comfortable and does not get in the way.

Through our competitive analysis, we found that all major fitness trackers measure steps, calories burned and distance traveled. Most also can work as alarms, stopwatches and can remind users to move. Fancier fitness trackers are also able to track heart rate, sleep, and exercise. A select few are even waterproof. For the survey about color schemes, most people did not report being drawn to monochromatic color schemes, while all other color schemes were about equally popular. This supports what we found in the interviews, that people find monochromatic schemes boring and that people are most motivated by color schemes that have colors they already like. We also found that people are most drawn to less saturated color schemes and least drawn to bright color schemes. 64% of responses favored the less saturated color schemes, 21% the baseline color schemes, and 15% favored the brighter schemes.

Zihao Yin

College Student

Goes to school on weekdays

Library and Gym are his favorite places

Walks his dog every night



Background and attitudes

Combine exertion and rest

As a student, his role is to study hard. He is always the earliest person who goes to class and the one who does the assignments most carefully before the deadline. His family paid a huge amount of tuition and sent him to the United States to study. He was grateful to his parents so that he was determined to graduate sooner and to have a good grade. He likes to spend his spare time in the library reading.

However, he isn't able to stay fit without consistent exercise. He's underweight and unhealthy. So he decides to go to the gym with his friend after dinner. He does fifty sit-ups, runs one hour, and lifts weights for half an hour every day. But sometimes, the wrong way he exercises causes him to cramp. He wants to hire a trainer to avoid this and to better understand exercise, along with better motivating himself.

Zihao's Goals

- **Get A in each course.** Zihao tries his best studying in his school. Listening to the teacher carefully in class and going home to review. He also takes a part-time job as a tutor at school
- **Be healthy.** Zihao cares about his body shape and health. He also pays attention to his dog's health and happiness. Therefore, he goes to the gym everyday and takes care of his dog responsibly.

Jackson Miller

Gamer

Plays video games 1-2 hours a day on average

Keeps track of game achievements

Plays video games on phone and console

Completes daily challenges for games



Background and Attitudes

Jackson is motivated by achievements and daily challenges in games.

Jackson is playing video games when he sees a notification in the corner of his screen. He has just unlocked a new achievement. Jackson clicks on the notification to see the games trophy room. He notices that he's close to earning a few more achievements, so he decides to go back to playing the game to work on earning a few more trophies. Jackson takes great pride in earning new achievements, and he will often spend more time playing than intended in order to earn them.

Still half asleep, Jackson grabs his phone and checks his morning notifications. He sees a notification from one of his favorite games and opens the app to start the daily challenge. He doesn't want to lose his daily streak, if he missed a day it would take months to get his streak back to what it used to be. After completing the daily challenge, Jackson collects his reward for completing the challenge, points that he can spend in the game's store.

Jackson tries to have a healthy and productive lifestyle.

Each morning after breakfast, Jackson likes to walk his dog around the neighborhood. However, he has had a hard time making a habit of it. Most days today included, he decided he wasn't motivated enough to exercise and started playing video games. He has been frustrated with his lack of commitment to living a healthy lifestyle. He enjoys playing video games, but he realizes he doesn't accomplish anything useful by playing video games. This makes him feel guilty and makes him wish there was a way to make boring activities, like exercise, more fun.

Jackson's Goals

- **Track his progress in a game.** Jackson frequently checks his statistics in each game and is always trying to get a new high score or a new best time. He is always trying to reach the next level in a game and will even look up tips online to beat a level.
- **Develop good habits.** Jackson has been trying to be more productive with his time and be more physically active. He would like to be able to play video games while doing something productive.

Caitlin Fitz

Trainer

Teaches classes at gym

Uses online system for plans and routines

Sets up new stations each week

Dislikes inconsistency in teaching styles



Background and Attitudes

Caitlin values consistency in her workplace.

Every time Caitlin prepares to teach a class, the process is the same. She goes onto her gym's online system and selects the class and skill level she will be teaching in order to find her class plan for that week. In her printout she finds a general outline of what to do when and what skills her class will work on. She likes being able to use a similar plan year after year.

However, the past few times she subbed for a class, she found that it was difficult to teach because the usual trainer used a different teaching style than her. She often becomes frustrated when subbing for other trainers because of the inconsistency in how skills are taught in her gym, even though the plans from the online remain consistent.

Variety does have a role in her work, though.

At the start of each week, Caitlin and the other trainers at her gym receive the new gym setup, which comes from the same online system she uses to plan her classes. Caitlin helps rearrange all of the stations. Then she begins to prep for her classes in the coming week, since her classes must always adapt to the new setup.

During her classes, Caitlin is encouraged to modify the plan to fit individual needs, either making it easier for those struggling or more difficult for those excelling. Caitlin says she likes to view her plan as more of a guideline, rather than a to-do list.

Caitlin's Goals

- **Encourage people to be fit.** Whether it's her clients, her friends, or even herself, Caitlin is always challenging those around her to go the extra mile when it comes to fitness. She is always ready to offer words of encouragement and to celebrate milestones.
- **See improvement.** Caitlin likes to track the progress of her students in class and in her own workouts to make sure that they are on the right track. Even small improvements give Caitlin a sense of accomplishments.
- **Avoid discouraging or guilt-tripping clients.** Caitlin doesn't like people feeling guilty about working out or people feeling discouraged if they skip a workout or fall short of a goal. She feels much more motivated by encouragement, rather than discouragement.

Elizabeth Johnson

Athlete

Member of the rowing team

Trains six days a week

Does a variety of workouts

Dislikes changes in training plans



Background and Attitudes

Elizabeth values consistency in her training.

During a typical rowing practice, Elizabeth expects to do a core workout, a cardio circuit, and a lifting circuit, in addition to working on the rowing machines. However, today one of the coaches decided to make some changes to the workout. This made Elizabeth frustrated. The plan they were supposed to follow had been made by a professional trainer with more experience than her coach. She was also worried that these changes to her workout would hurt her progress. She told one of her teammates that she wishes there was a way to make the rowing workouts more consistent.

Elizabeth needs variety in her training plan.

During a three-hour practice, Elizabeth and her team accomplish a lot. First, she starts with a 10-minute core workout, featuring planks, Russian twists, and crunches. Then she moves onto lifting, working on several machines. Next she really breaks a sweat during the cardio circuit: running, biking, jumping squats, and burpees. Finally, she moves onto the rowing machines until she can no longer feel her legs. She likes having variety in her training plan, since it keeps her workouts interesting.

Elizabeth's Goals

- **Track her progress.** Elizabeth and her team are always trying to improve their rowing time as well as their overall fitness. She wants to be able to see how she improves over time.
- **Quantify her activity.** Elizabeth wants to know exactly how active she is, including how many steps she takes every day and how much she exercises. Elizabeth also wants to track her heart rate to make sure she hits her target heart rates when training.
- **Have a consistent training plan for the whole team.** Elizabeth is frustrated when her training plan is changed. She wishes there was a way to make sure all her trainers and coaches are on the same page.

Context Scenarios and Requirements

Caitlin wants to track the progress of some individuals that she is training every Saturday. She wants to accurately track their progress and uses the Healthpets system to do so.

When Caitlin logs into the healthpets app, she is given the option to set up “Trainer Mode”, which allows her to get (limited) stats from multiple devices on their exercise routines during the week, length of cardio activity, calories burned etc. She can set goals and provide incentives, like extra food for their pets, or, if you’ve fallen behind, turn your pet into a horse.

Caitlin wants to get a physical copy of the statistics from one of the individuals in the group in particular and is able to print them from her device to show in a more physical format.

Data needs would be stats

Functional needs would be hard copy

Requirements

- Ability to sync data from one or several healthypets device to a device designated as the trainer’s device
- Accessible UI for syncing data
- Easy visualization of data in app, as well as exporting it to varied formats

Jackson Miller wants to use the fitness tracker to set increasing exercise goals, and to more effectively motivate himself to exercise. He uses Health Buddies to do so. If he meets his goals, he is rewarded by being given lettuce for his virtual pet parakeet. However, if he fails to accomplish his exercise goals, which are synced with the application on his device from the wearable device, his parakeet will be turned into a horse. If he accomplishes his goals, or wants to show his stats to his friends, such as the amount of goals met, he can share them on social media, and can also get a hard copy.

Data needs would be stats, as well as goals

Functional needs would be hard copy

Requirements

- Ability for healthypets device to sync data to phone
- An UI that's accessible
- Data visualization and sharing options
- Gamification of exercise goals

Experience Attributes

For the experience attributes, we extract several key points that stand for our brand and product from our research and interview results.

Adorable, youthful, entertaining, healthful, colorful, comfortable, motivating(encouraging), responsible, accurate, personal, wearable, simple, digital.

For easier understanding, we divide them by genres.

Product's emotional attributes: Adorable, entertaining, healthful, motivating(encouraging), responsible.

Domain of user: Youthful

Product's physical attributes: Accurate, personal, wearable, simple, comfortable, colorful, digital.

Begin with the product's emotional attributes, all of them origin from our basic project principle, letting users stay healthy and motivated. Then, the physical attributes of the product, some of them are from the interview/persona results, such as colorful, simple, and comfortable. All the results can be found in former parts of the document.

Colophon

The last page of the document needs to list who worked on the design team, their roles, and a short description of their contribution to this UsDA document.

Jonathan Szarfarc: Team Lead, Wrote executive summary Introduction to Project parameters and Colophon.

Miranda Price: Wrote VisD: Research Methods and Rationale along with Summary of research findings.

Kestor Brown: IXdG Wrote for Context scenario and Requirements:

Yiyuan Chen: ID Wrote for Personas

Zichen: IDXS: Experience attributes