



Cora Process Book



Savannah
Project Lead



Satchel
Product Lead



Taylor
Research Lead



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Visual Lead



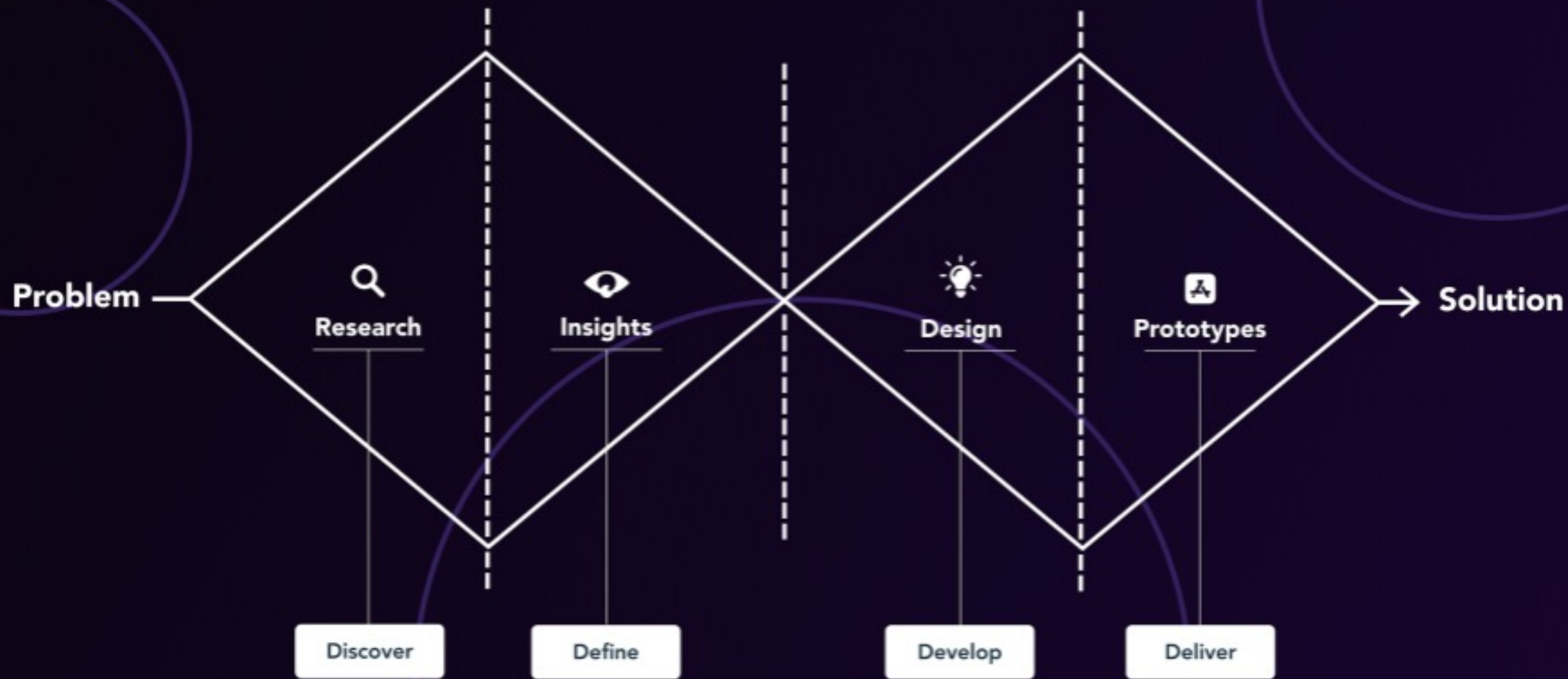
Sara
Interaction Lead



Perceptual & Cognitive Human Factors

Topic

The relationship between the mental and physical health of an athlete when they are injured.



Our Plan



Human Needs

Pleasure-Stimulation

Money-Luxury

Security

Self-Esteem

Popularity-Influence

Autonomy

Competence

Relatedness

Self-Actualization

Physical Thriving

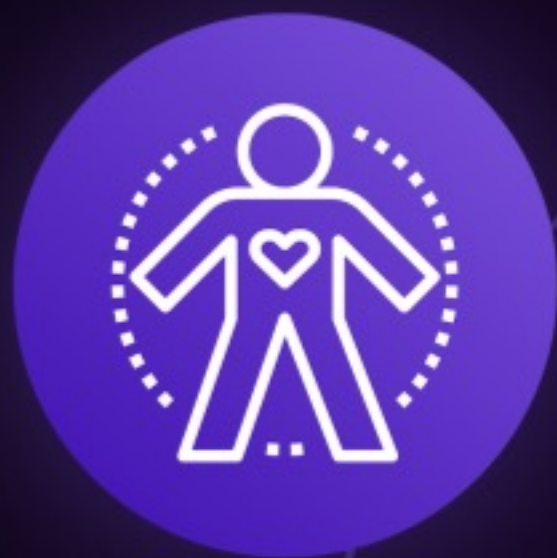


What is our specific need?

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Perceptual & Cognitive Human Factors

Our Factors



Physical Thriving



Competence

Problem Space

Injured athletes get resources for their physical health, but their mental health is not usually considered. Getting injured takes a big toll on an athlete's mental health and can even delay their physical recovery.

Primary Research

Survey: **100+ Responses**

Interviews: **7 Athletes**

Group Interview: **4 Athletes**

Expert Interviews: **2 PT's**

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100+

Responses

7

Interviews

4

Expert Interviews

1

Group Interview

Perceptual & Cognitive Human Factors

How Topic Relates To Need

Physical thriving: Associated with only a positive affective tone. Staying active is a natural antidepressant.

Competence: Successful in completing difficult tasks, mastering challenges, and being capable. With an injury, this hinders the athletes capability of playing their sport for an unknown amount of time.

Security: Life is structured and predictable, I have routines and habits and are safe from threats and uncertainties. Injuries are unpredictable. There is no timeline for returning to play.

Secondary Research

Athletes may be afraid to reveal their symptoms

- They can see seeking counseling as a sign of weakness.
- Already accustomed to working through the pain.
- Athletes are pressured to “play through it”.

Secondary Research

Physicians make the mistake of focusing purely on physical outcomes.

- Its essential athletes psychological state is acknowledged.
- Physicians should consult a psychologist even when the athlete denies emotional problems.
- Emotional reactions may affect an athletes return to play, including a lack of confidence and fear.

Secondary Research

Athletes response to injury can trigger or unmask serious mental health issues.

- Including sadness, isolation, irritation, lack of motivation, anger, frustration, changes in appetite, sleep disturbance and disengagement.
- Injured athletes may restrict their caloric intake because they feel they “don’t deserve to eat”.
- Mental pain caused by injury or loss of your sport can be far more devastating than the physical injury.

Target User

Age: 18-30 Years Old

Average ages of college-level and professional athletes.





Revealing
Symptoms



Psychological
State



Coping
Mechanisms

Sources:

Heavey, Susan. "U.S. athletes still reluctant to admit head injuries" Reuters. Oct 30, 2013. Web.

Goldberg, Alan. "The Mental Side of Athletic Injuries" Competitive Advantage. Jan 18, 2019. Web.

Putukian, Margot. "Mind, Body and Sport: How being injured affects mental health." NCAA. March 12, 2012. Web.

Spark

Spark looked into the problem of people with musculoskeletal injuries not utilizing available physical therapy. Users are able to correctly perform daily exercises using a fun, engaging and accessible AI machine that has motivating visuals.



Gatorade Sweat Patch

GX Sweat Patch is worn by an athlete during a workout showing a range of results, helping athletes understand sweat loss rate and sodium concentration. These results provide personalized hydration and electrolyte recommendations for performance and recovery.



AthleteJuvo

AthleteJuvo aims at connecting the injured athlete to the society. Keep them involved and around other people. It is a mobile application to gamify, visualize and socialize the rehabilitation process.



Carol Turner

Gymnastic
University of Michigan

 Say Hi

Member Since

Dec 2017

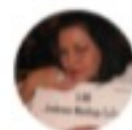
Injury Part

Ankle

Favorite Gym

NCRB

Mutual Connection



Sara Martin
Volleyball
II



Sam
Basketball
II



Dennis
Softball
I



Frances
Hockey
Hockey

Connect with Carol

Survey Results

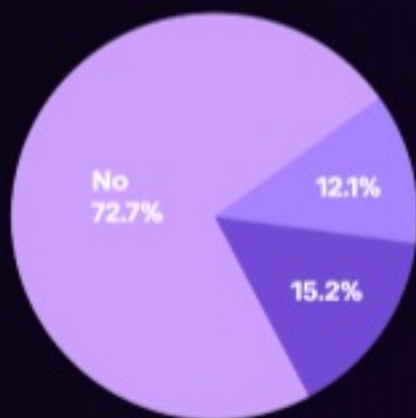


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Perceptual & Cognitive Human Factors

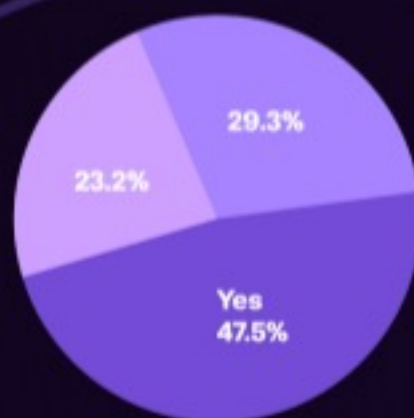
Most physical trainers (72.7%), don't acknowledge athletes mental health.

Yes No Maybe



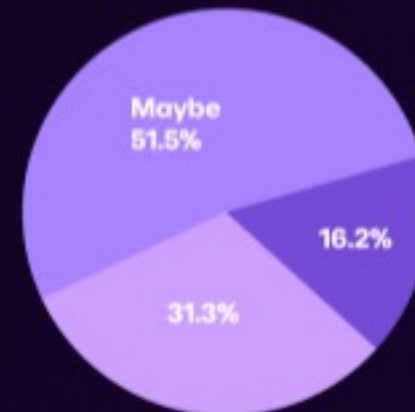
Almost half (47.5%), said they wish their trainer would have cared more about mental health.

Yes No They did care



Half said they were unsure if connecting them with a psychologist would have helped.

Yes No Maybe



Perceptual & Cognitive Human Factors

Frustration, sadness, and irritation were the most common emotions felt after injury.

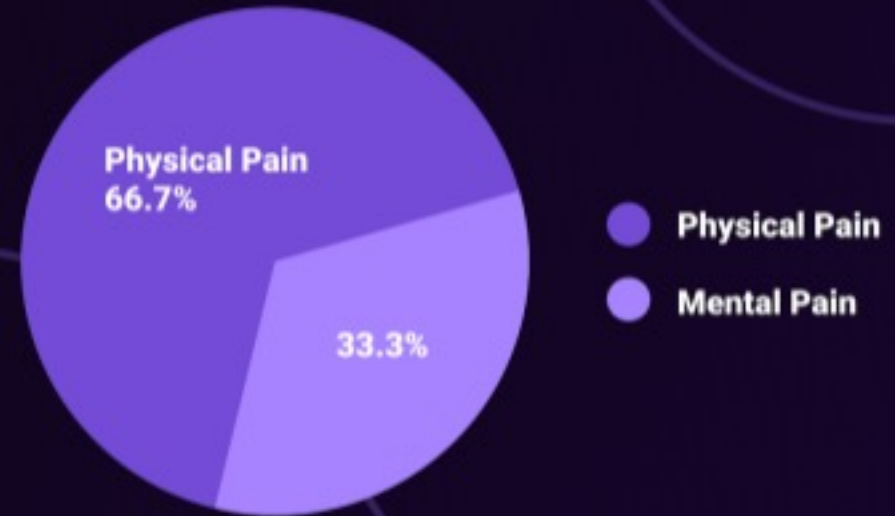
Which emotions have you felt as a result of your injury. Check all that apply to you.



**Physical pain
took a greater
toll than mental
pain during an
athletes
recovery.**

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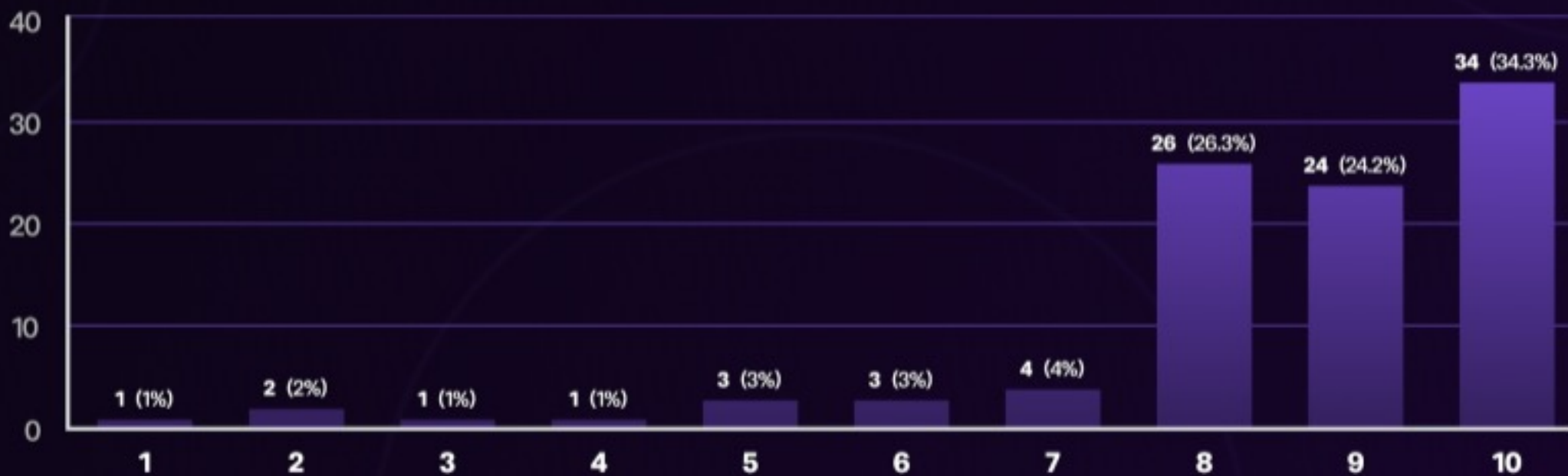
During your recovery period what took a greater toll on you, your physical or mental pain?



Perceptual & Cognitive Human Factors

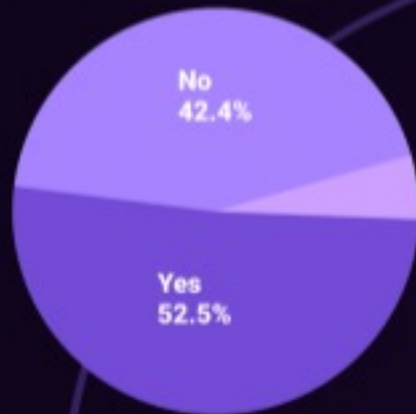
Athletes prioritize physical health over mental health in recovery.

According to this scale what did you prioritize more in your recovery: mental health (0) or physical health (10)



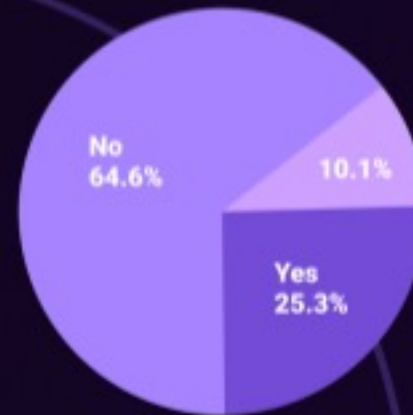
Half (52.5%) said they've been told to play through an injury.

● Yes ● No ● Maybe



More than half (64.6%) said they aren't scared to reveal an injury.

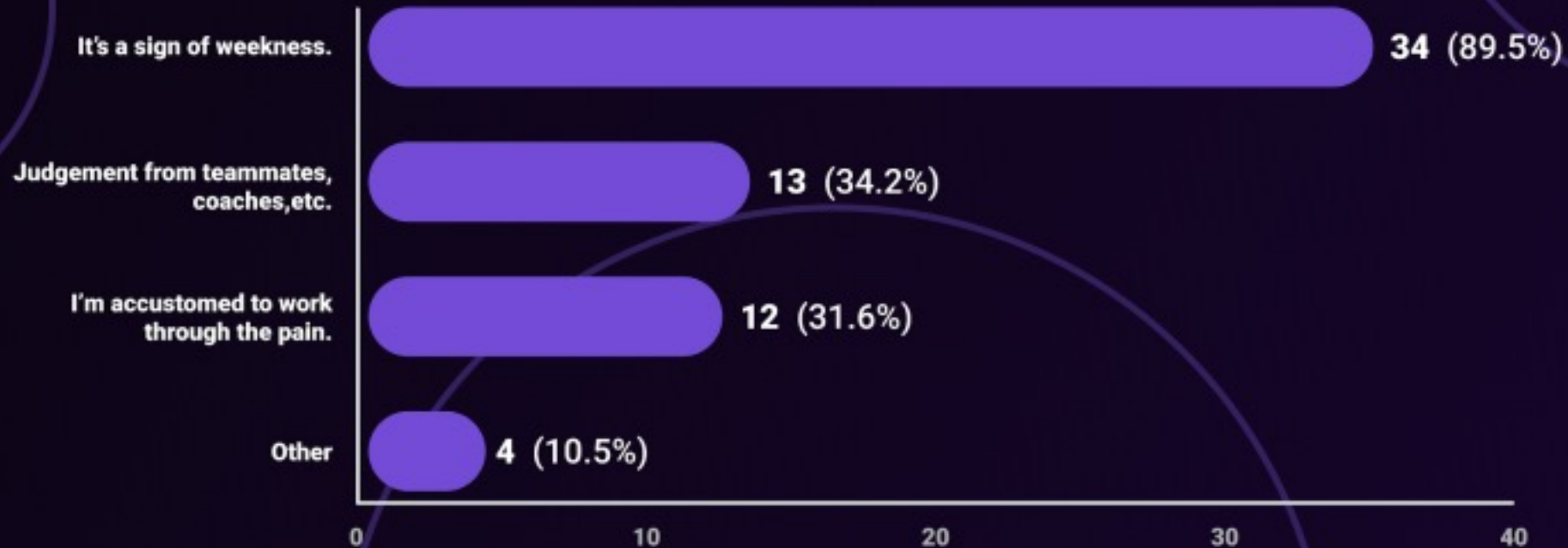
● Yes ● No ● Maybe



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Athletes were scared to reveal an injury, because they saw it as weak.



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Interview Results



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Perceptual & Cognitive Human Factors

Interview Results

- Athletes can be scared to reveal their injury, or cope with avoidance and isolation
- Athletes often play through the injury
- You can't recover physically without mental recovery
- Some PT's (Physical Therapist) have talked about mental health, but never offered it

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Interview Results

- It would have been healthy to talk about mental health
- Some athletes prioritized physical health over mental health
- Coping mechanisms can include avoidance or distraction



Expert Interview Results



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Athletic Trainer

Interview

1

Physical Therapist

Interview

Expert Interview Results

- Every athlete is different, they need to be motivated through recovery
- A great relationship with the PT & a Sports Psych. is important
- Timelines are important for motivating athletes, especially digitally
- Athletes lose interest during recovery, and doing it virtually can be very difficult

Expert Interview Results

- Focusing on the mental side is key
- It's hard to motivate athletes digitally
- Involve the coach with recovery
- A sports psych counsler would be helpful

Group Interview Results



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Group Interview Results

- PT can be mentally draining
- The recovery process is drained out
- Working out is a natural coping mechanism
- Mental health resources would make a difference

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Group Interview Results

- A set schedule prevents unhealthy coping mechanisms
- Athletes are accustomed to work through the pain
- A sports psychologist would be beneficial

Expected Outcome

Ultimately, we want to create an experience for injured athletes to help them with both the physical and mental coping that comes with an injury.

Most programs focus on one or the other, but it is imperative to address both simultaneously, which is our goal.

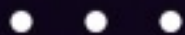
Athletes should feel...

Renewed

In Control

Content

Looking Forward



Sprint Week

5 Day Design Sprint



Sprint Week Process



Sprint Week Takeaways

- Shifting focus to the physical side of recovery versus mental
- Focus purely on mobility injuries versus concussions
- How important the athlete, PT, and coach relationship is to physical recovery

Affinity Mapping



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Affinitizing Insights

Many athletes play through the pain for a variety of reasons and when they become scared to reveal them or reveal their progress they are prone to re-injury.

x62



It is important to give athletes specific plans so they don't lose interest during a slow recovery.

x29



Injuries take a big toll on mental health and play a big part into recovery and using healthy coping mechanisms can help.

x52



I wish there were another person to help with mental health because my PT did not acknowledge it probably because it is difficult to develop a relationship with them when they manage many people.

x60



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Affinitizing Insights

Mobility and concussion injuries impacted athletes equally mentally.

x34



It is important to have a good relationship with your PT/Coach so they know what is going on and they can validate their feelings and provide positive reassurance.

x23



Getting mental health help from resources to gain healthy coping mechanisms or coming to realizations improves recovery.

x63



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How Might Wes

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HMWs

- How might we empower athletes to talk about their injury and recovery process?
- How might we create more structure in the athlete's recovery routine to encourage a more efficient recovery?
- How might we help athletes find more appropriate coping mechanisms and stop the use of avoidance and isolation?



HMWs

- How might we better the relationship between the coach, the PT, and the athlete?
- How might we aid in the recovery process of a mobility-related injury?
- How might we encourage the use of mental health resources to better an athlete's recovery process?



Insights

The recovery process as is **does not work** for most athletes.

Athletes often **prioritize their physical health much more than their mental health**, which causes unhealthy coping mechanism.

The key to fixing this problem is **prevention**.

Personalizing and **ratifying** the recovery process from the beginning will allow for a better, faster, and more efficient recovery, which improves **both** mental and physical health for the athlete.

Intended Outcome & Impact



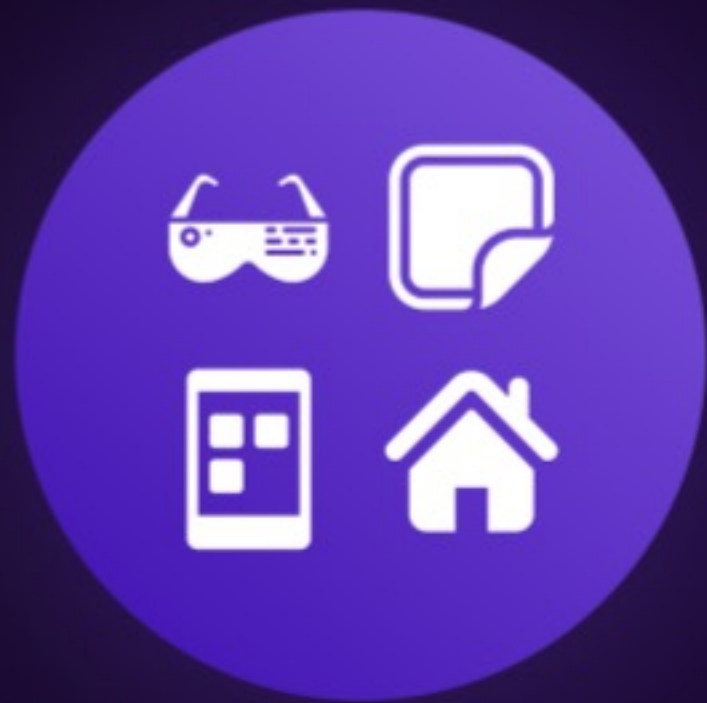
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Intended Outcome & Impact

- Feel more in control of their recovery
- Feel empowered in their physical therapy process
- Find comfort in reaching out for mental or physical help
- Trust the process, themselves, their coach, and their PT



Idea Pool & Feasibility Map



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AR Glasses software that projects their physical therapy as well as acting as a team building device.



Smart Sleeve that measures muscle activity and activation of injured athletes.



PT device that also acts as a mental health resource. (Online Journal & Video Diary)



Home Physical Therapy Unit with a touchable screen interface and ability to connect directly with PT and Doctor.



Application to display and track all of their recovery and PT information.



Fitness ring to track all of their movement data and send it to the PT seamlessly

Impact



Feasability

Storyboards & Concepts



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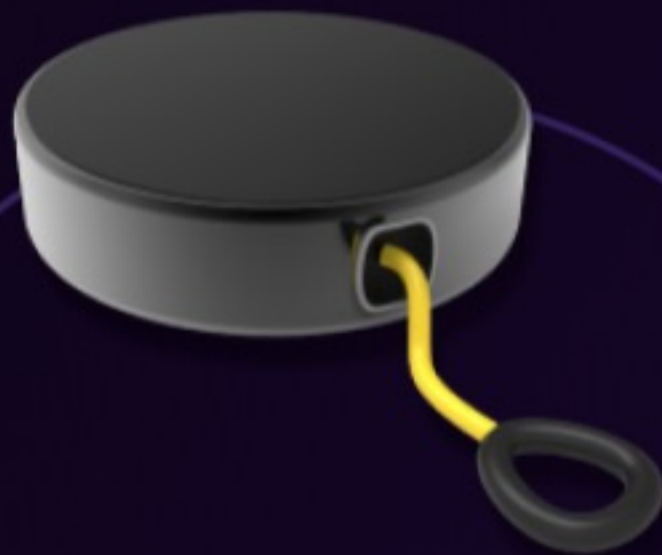


Home Physical Therapy Unit with a touchable screen interface and ability to connect directly with PT and Doctor.

Concept One

- How might we create more structure in the athlete's recovery routine to encourage a more efficient recovery?
- How might we better the relationship between the coach, the PT, and the athlete?
- How might we aid in the recovery process of a mobility-related injury?
- How might we visualize and gamify the athletes mental and physical recovery while working and sharing their progress with the trainer/coach/doctor?

Concept One: The Puck





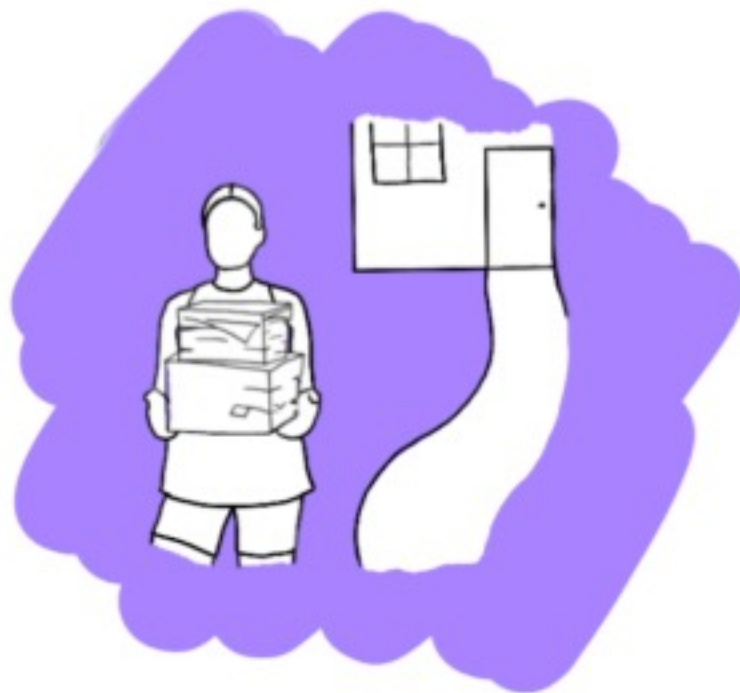
Puck tutorial by PT, given to athlete to use at home.



Recovery plan printed out and given to athlete.



Athlete brings the puck home.



Athlete brings paper plan home.



Puck provides daily planned exercises on screen.



Athlete struggles to sort through paper plan.



**Post physical therapy survey to
provide feedback with PT.**



**Athlete re-aggravates injury after
not doing exercise correctly**



AR Glasses software that projects their physical therapy as well as acting as a team building device.

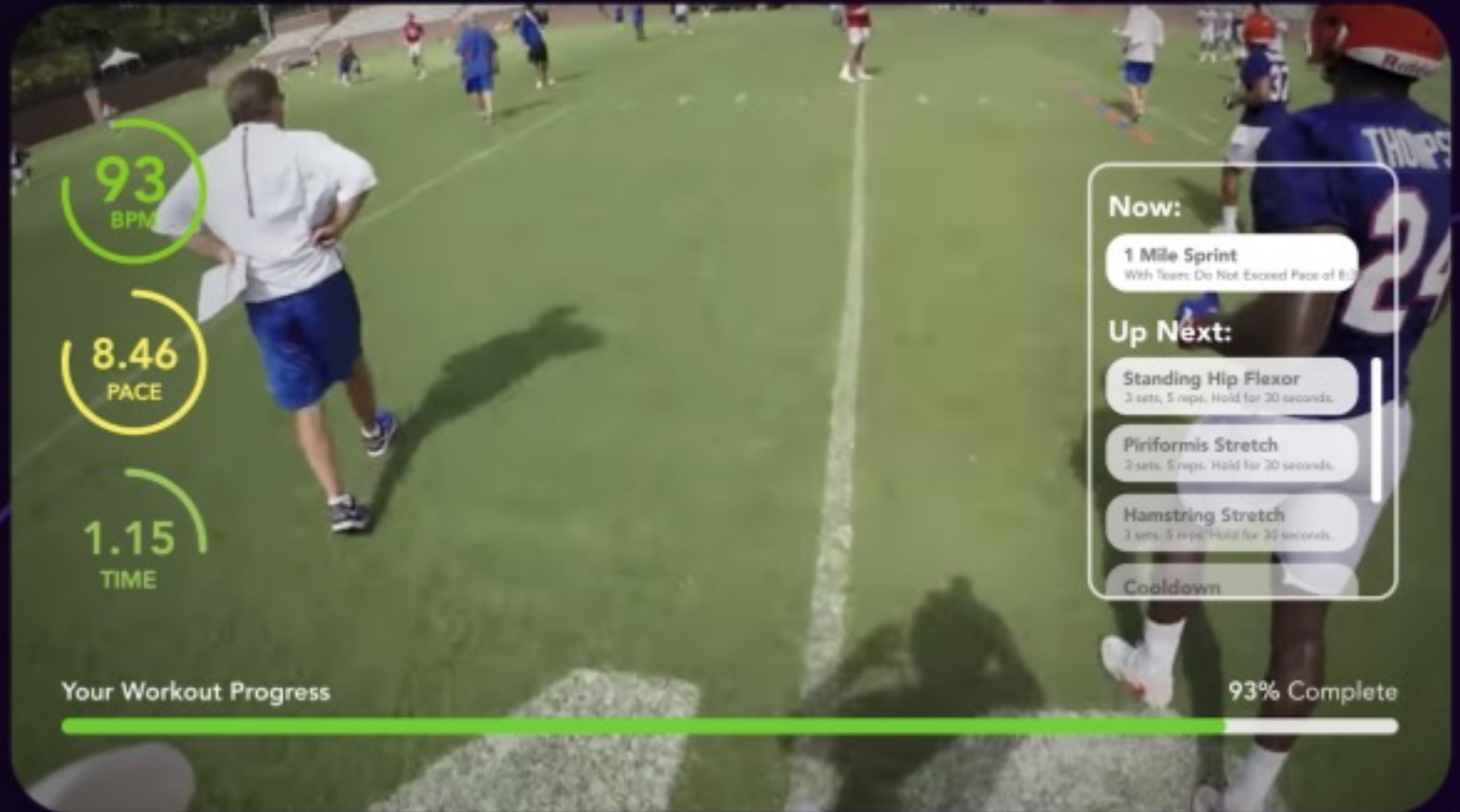
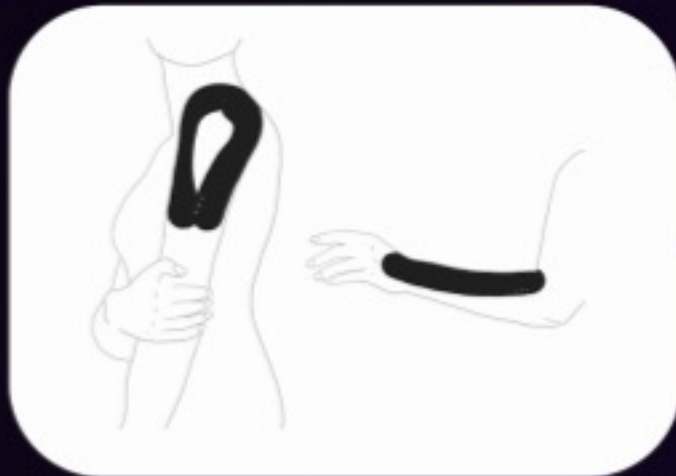


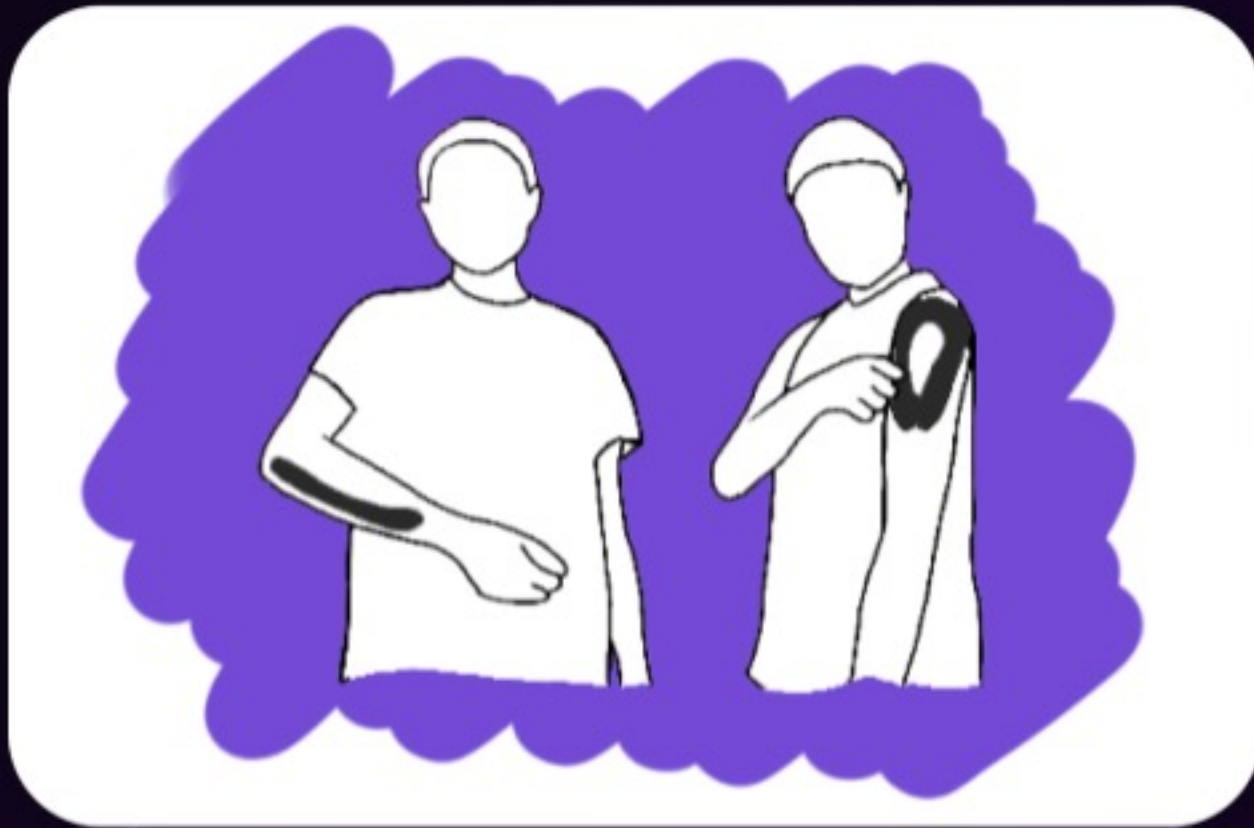
Muscle patch the measure the stretch of a muscle and can alert when a certain muscle is being used too much.

Concept Two

- How might we visualize and gamify the athletes mental and physical recovery while working and sharing their progress with the trainer/coach/doctor?
- How might we develop the relationship between the athlete and available resources to create healthy recovery habits?
- How might we create more structure in the athlete's recovery routine to encourage a more efficient recovery?
- How might we help athletes find more appropriate coping mechanisms and stop the use of avoidance and isolation?
- How might we motivate injured athletes to advance through recovery?

Concept Two: AR Glasses and Muscle Patch

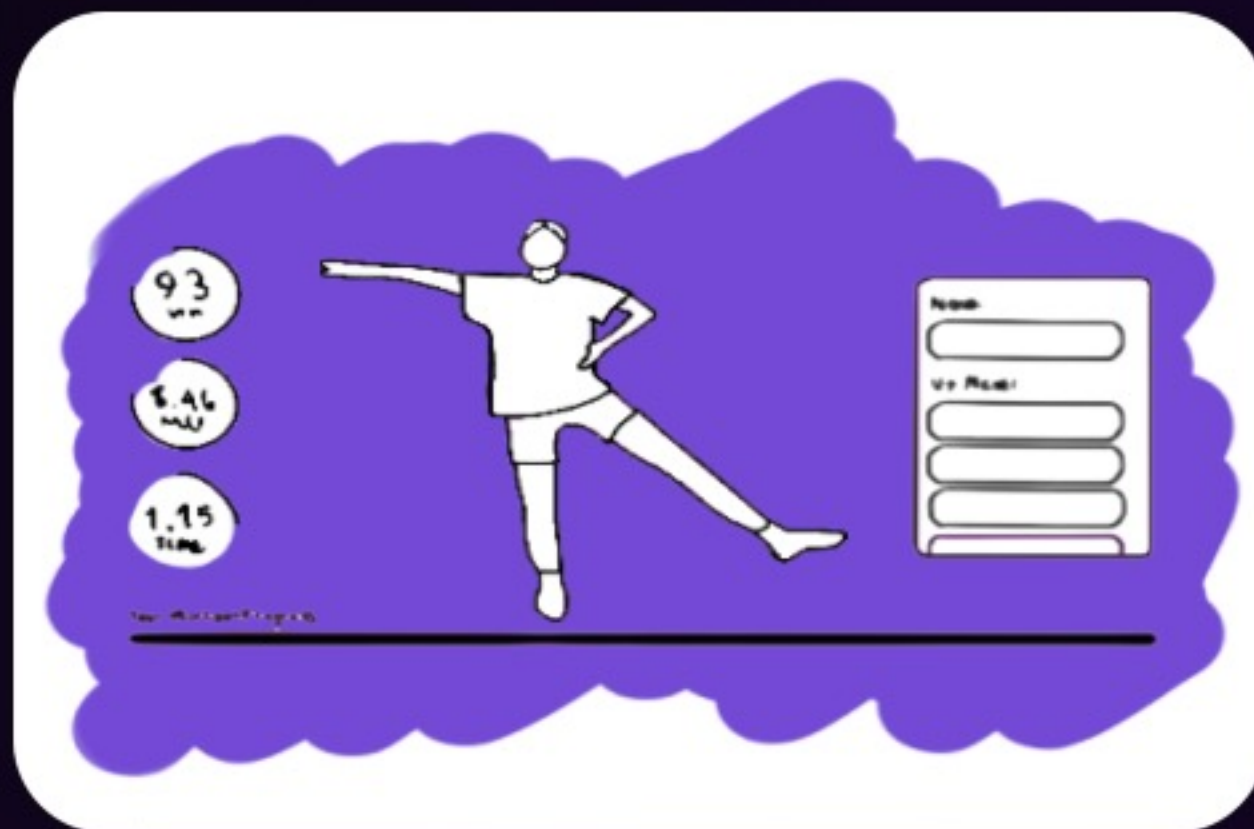




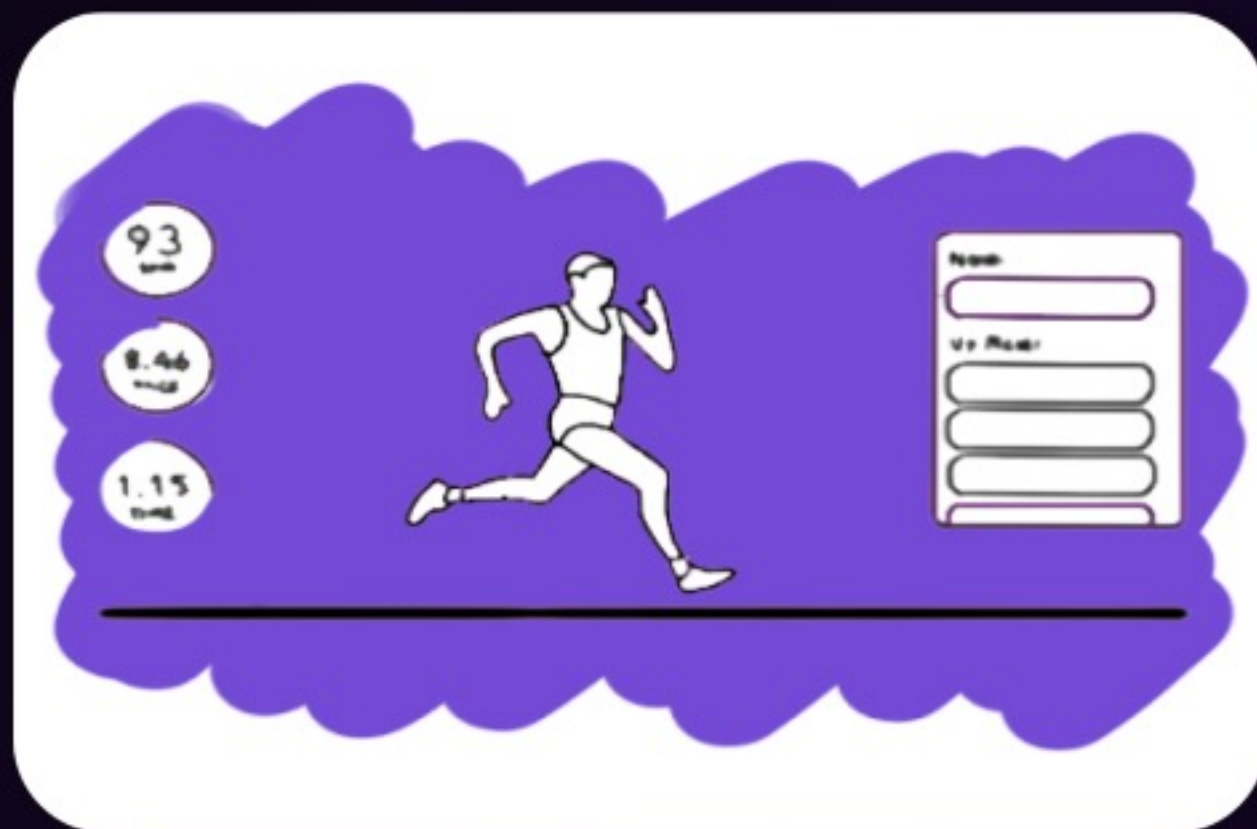
All athletes are assigned a muscle patch.



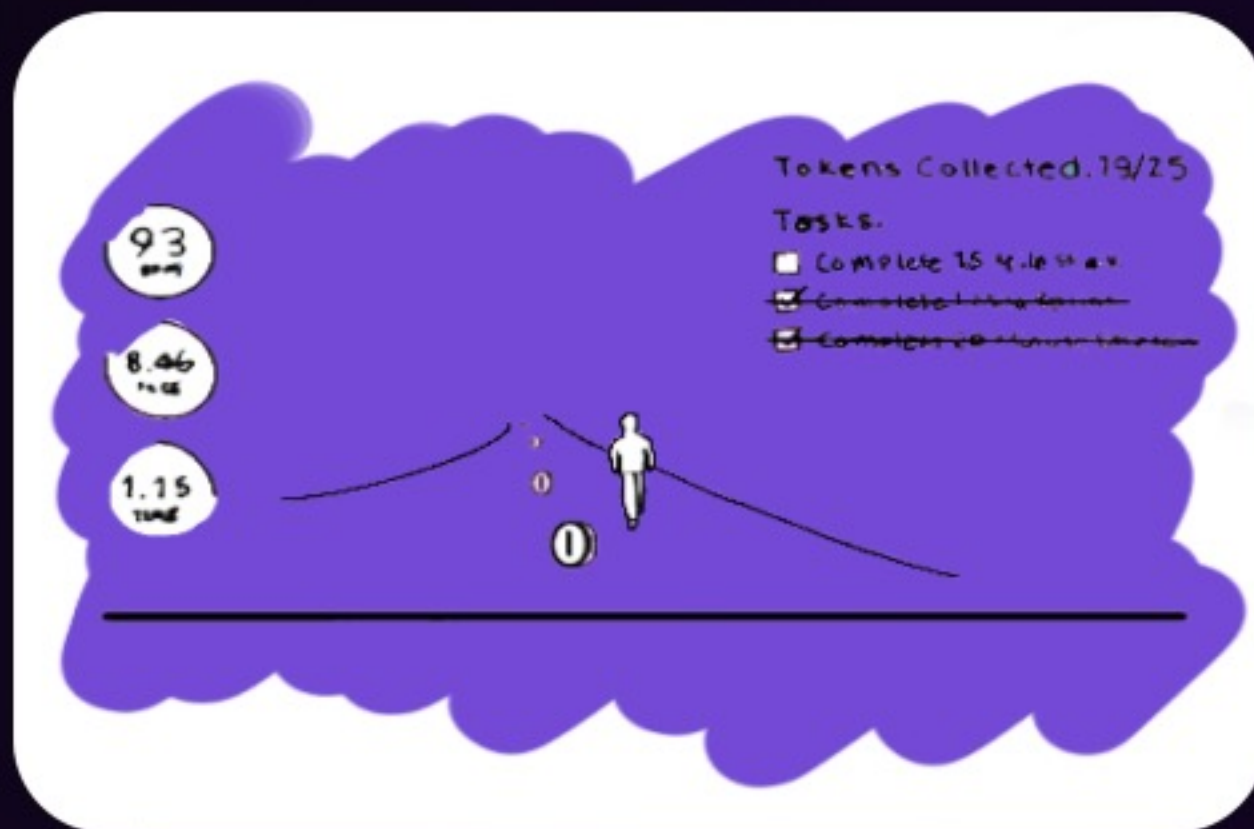
Athlete given AR glasses by trainer.



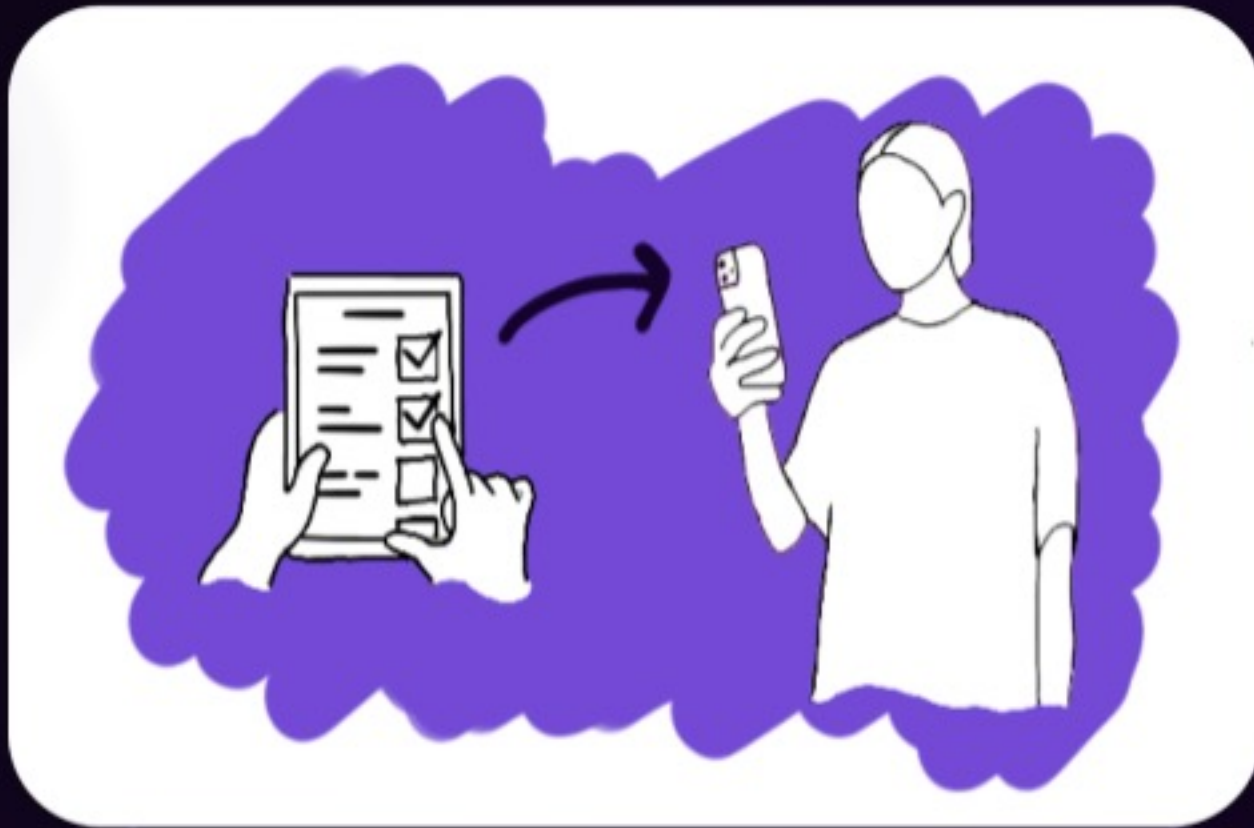
Athlete completes physical therapy with the team.



Athlete is able to connect with their team members.



Through gamification, the athlete is able to complete more at-home exercises.



All progress is tracked and sent directly to the athlete and PT.

Zombies, Run!

Goal: Zig Zag through the
zombies in your path.

Achieves: On/Off Muscle Strain

93
BPM

8.46
PACE

1.15
TIME

Your Workout Progress

93% Complete



93
BPM

8.46
PACE

1.15
TIME

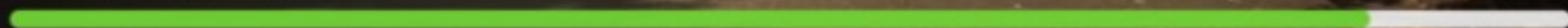
Tokens Collected: 19/25

Tasks:

- ☐ Complete 1.5 Mile Walk
- ☒ Complete 1 Mile Sprint
- ☒ Complete 20 Minute Stretch

Your Workout Progress

93% Complete

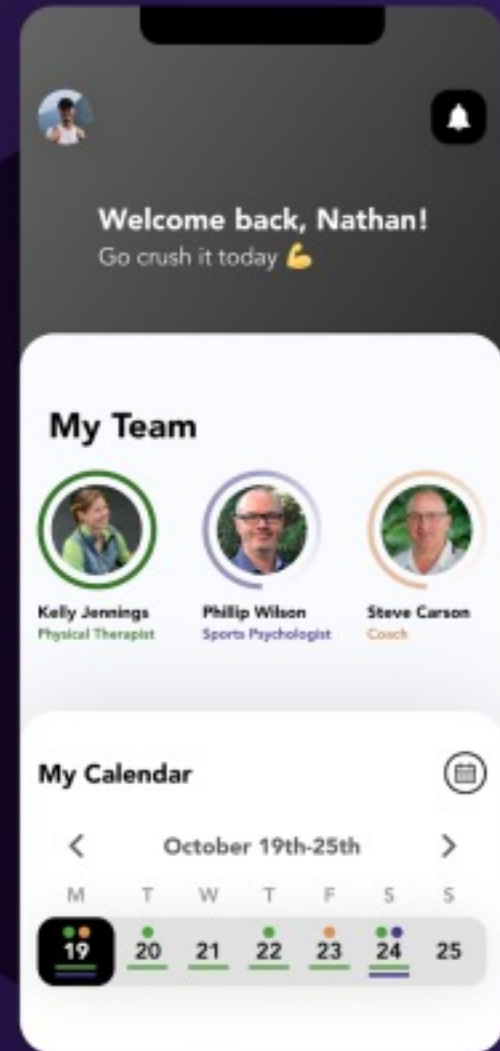




Final Concept

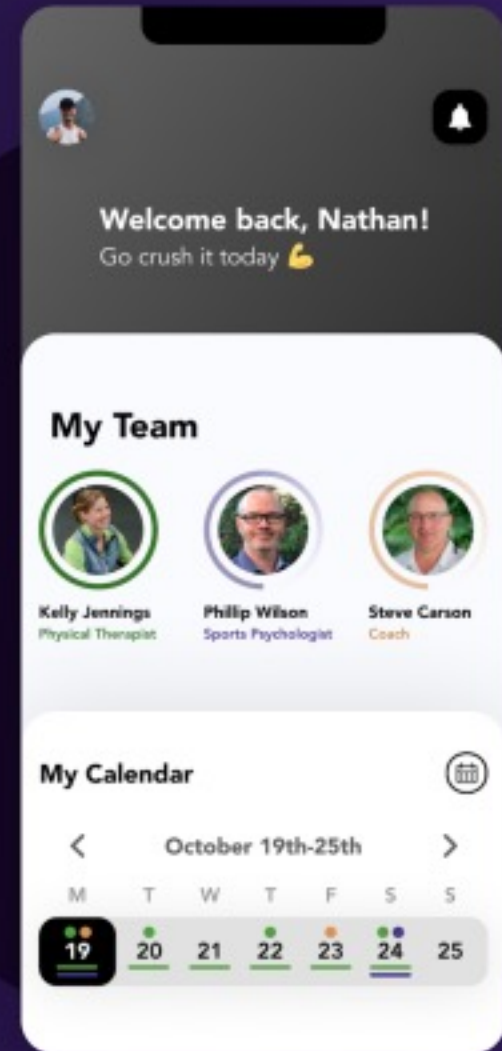
App Concept

Application to display and track the athletes recovery timeline and PT information while focusing on mental stability.



App Features

- Fast, reliable connections to an athlete's PT, Sports Psychologist, and Coach
- Intuitive workouts provided directly from the PT with the chance for easy, fast feedback
- Mental Health Toolbox to encourage athletes to consider their mental health in recovery
- Comprehensive information visualizations to better understand the recovery process



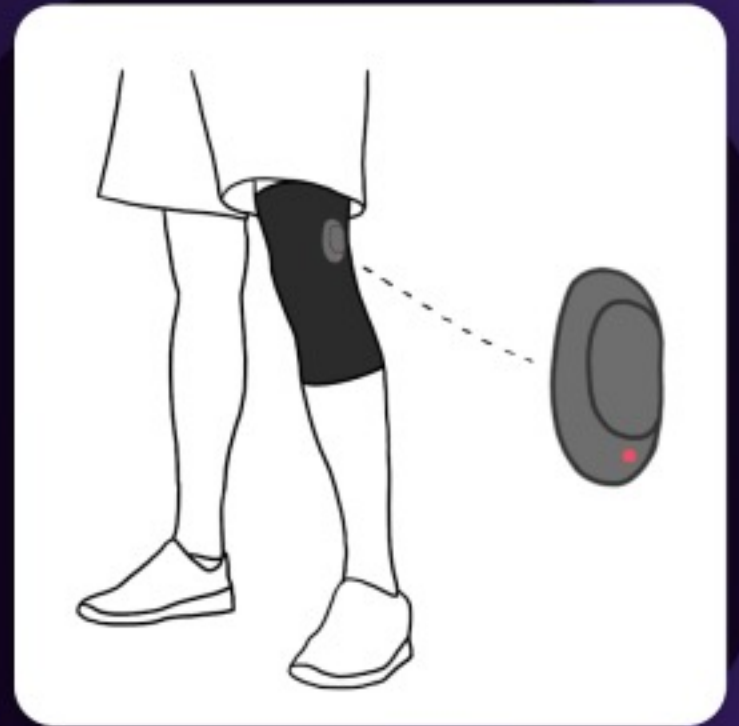
Product Concept

A wearable sleeve that measures muscle activity and activation of injured athletes. To allow the user to see live feedback of their injured muscle group, and give direct data to them and to their PT.



Product Features

- Direct connection to Cora's application component
- Electrodes in the sleeve measure muscle activation, as well as a heart rate sensor to measure workout intensity



Unique Selling Point

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Unique Selling Point

Other competitors are using a similar product, but have a different approach such as home yoga and daily athletic training.

We are combining the wearable sleeve with our app showing the athlete unique data that will enhance the mental and physical recovery experience.

Interaction Model



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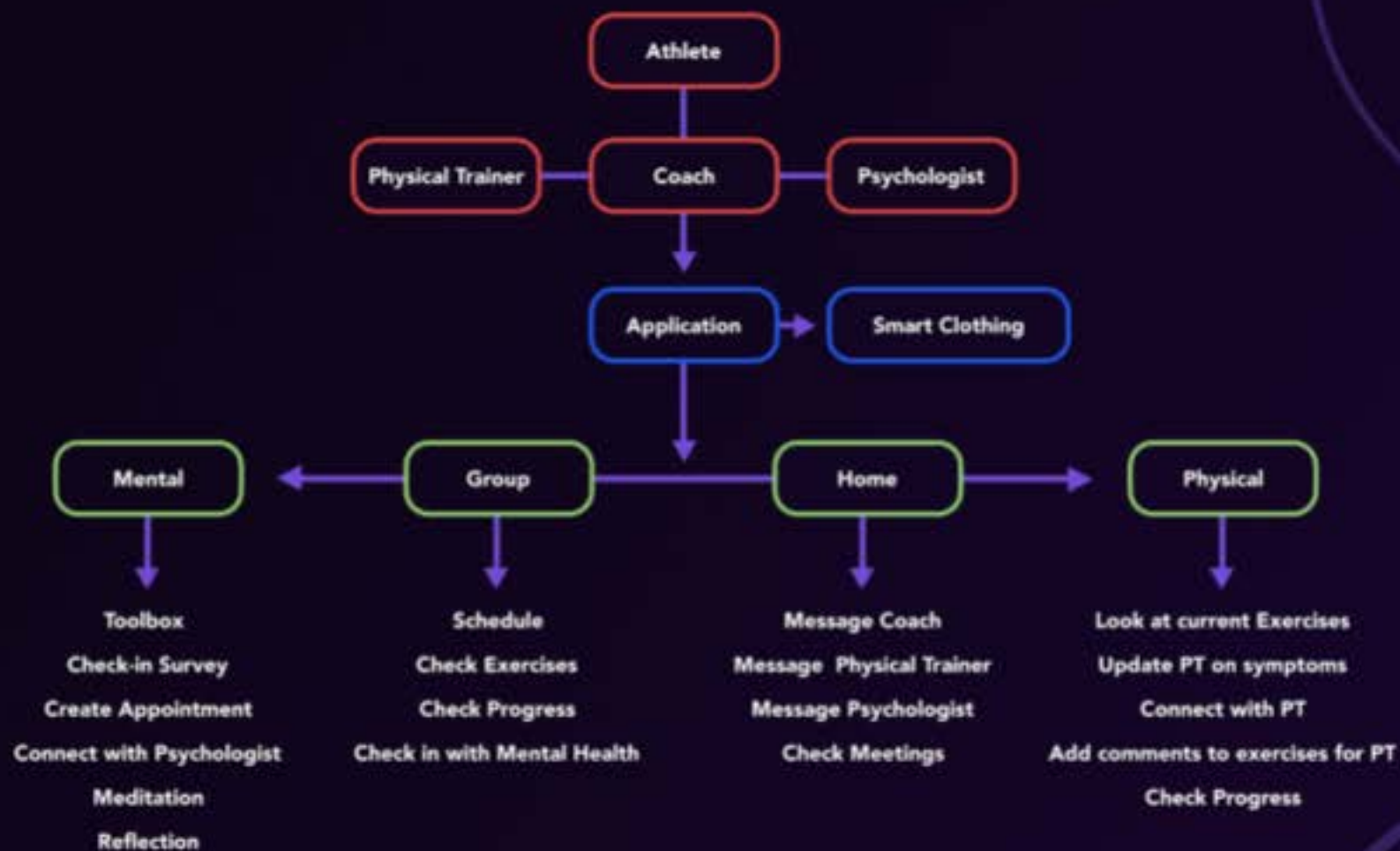
Perceptual & Cognitive Human Factors

Site Map



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Perceptual & Cognitive Human Factors



Personas & Journey Maps

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Perceptual & Cognitive Human Factors

Primary

Nathan Smith

Age

20

Location

Florida

Sport

Basketball

Biography

Nathan is a sophomore collegiate athlete that plays basketball at the University of Florida Gulf Coast. During his freshman year Nathan was able to get some playing time, but him and his coaches are expecting a much larger role for him going into his second season. Unfortunately he tears the quadricep muscle in his left leg during a preseason game. Nathan is now unable to play for around four to six months, and has to do daily physical therapy. Early on during his recovery he hasn't seen or felt much progress and is starting to feel down.

Jamar's

Frustrations

- Can't play for a long period of time
- Slow recovery progress
- Doesn't know how to cope with injury

Jamar's

Needs

- Motivation to stay on track for recovery
- See and feel his recovery progress
- Healthy coping mechanisms

Nathan's

Personality



70% Extraverted



65% Intuitive



65% Feeling



80% Judging



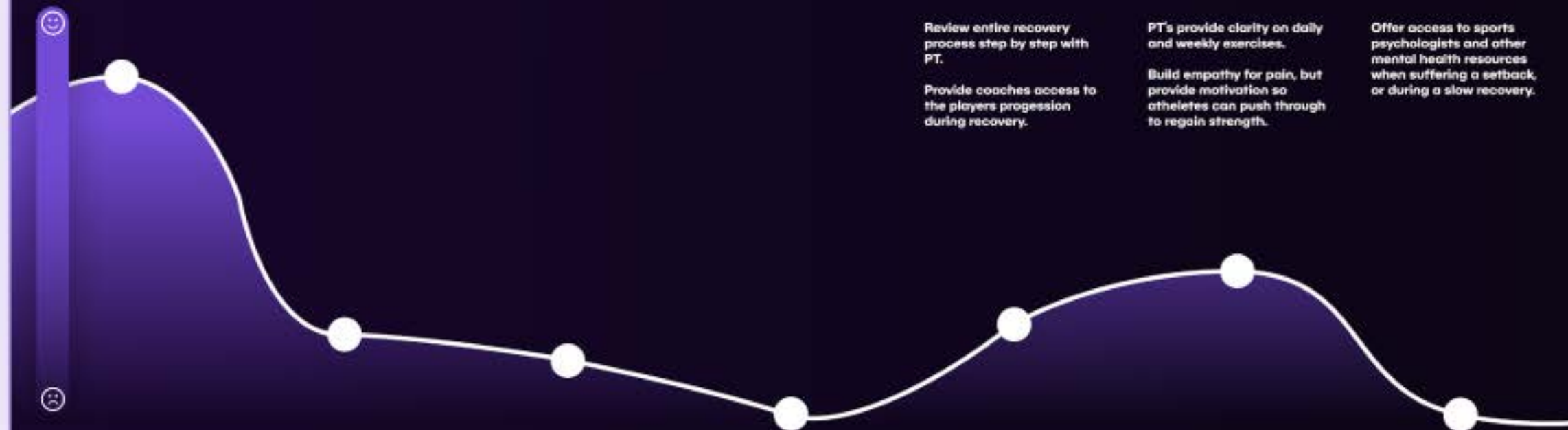


Nathan's Current Journey



Do	Goes to the first preseason game of the season.	Tears his left quad during the game.	Leaves game to go see the team doctors and conduct tests on his shoulder.	Doctor tells him his left quadricep is torn and that he will miss the rest of the season.	Starts his four to six month recovery process by getting surgery and beginning physical therapy.	Doesn't quite understand the recovery process and doesn't feel like he's making any progress.	Falls behind on recovery process, which delays her recovery time. Coaches are not happy with her, because she could now miss most of next season.
Think	<p>"Excited that the season is almost here"</p> <p>"Can't wait to finally have a meaningful role on the team"</p>	<p>"Could I be out for the season with this?"</p> <p>"Why me?"</p>	<p>"Please let it be just a pull or strain"</p> <p>"It's probably isn't a tear, I'll be fine"</p>	<p>"Will I ever be the same player again?"</p> <p>"I'm going to have to earn my role all over again"</p>	<p>"I need to start this recovery process"</p>	<p>"It really hurts to do some of these exercises"</p> <p>"I shouldn't push myself too hard, I don't want to damage my knee anymore"</p>	<p>"I now have to makeup all the time I lost"</p> <p>"How am I going to earn that role again if my coaches don't like me?"</p>
Feel	Excited, Focused	Frustrated, Scared	Stressed	Angry	Anxious, Motivated	Anxious, Isolated	Depressed

Opportunities



Overarching Questions

To gain specific insights on what to improve on, we followed these four overarching questions...

Navigate the application with ease.

Feel motivated to use the application.

Information is clear and informative

Has resources I would use for my physical and mental health.



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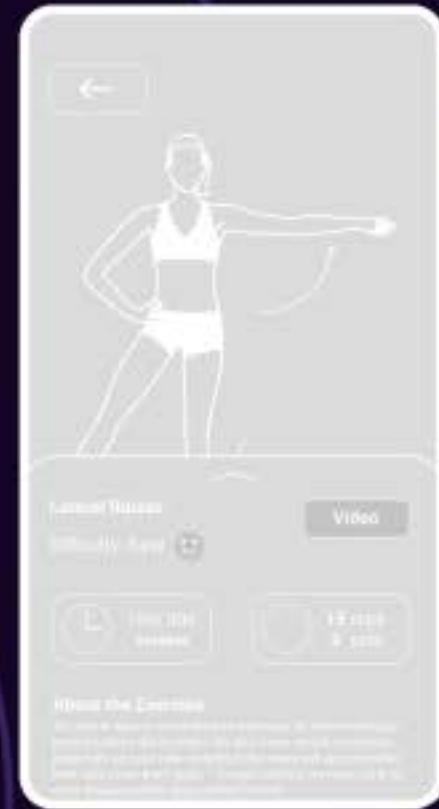
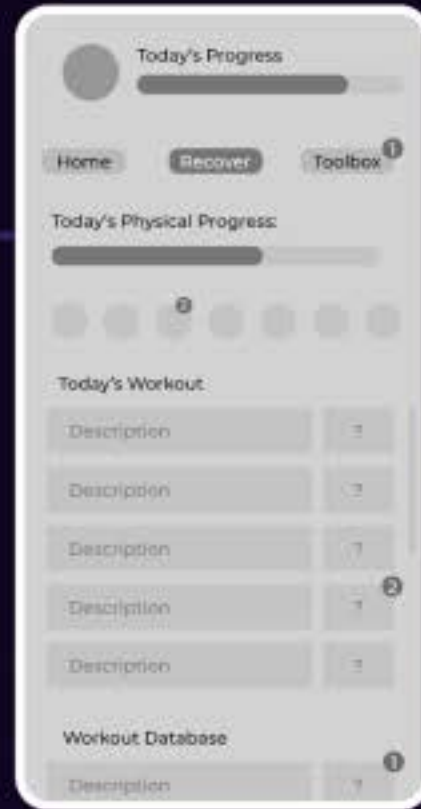
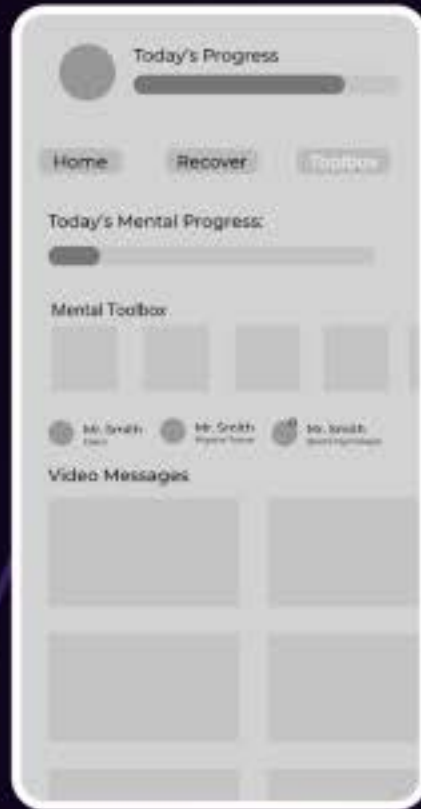
Low-Fi Prototype



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Low-Fi Screens



Evaluation Questions (Low-Fi)

- What's the most effective way to motivate users to complete their physical therapy?
- How do we encourage the goal gradient effect for their exercises and mental health tools?
- How can we avoid feature bloat while still employing a cohesive, universal concept?
- Are we actually aiding physical recovery?

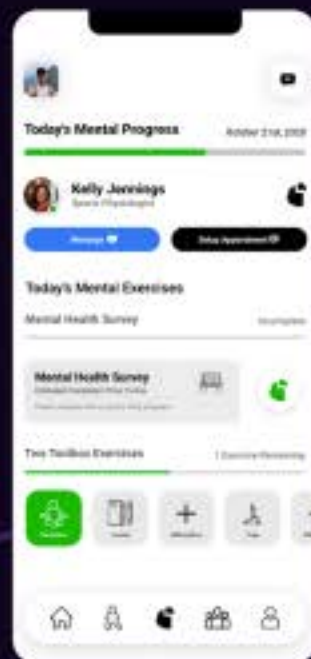
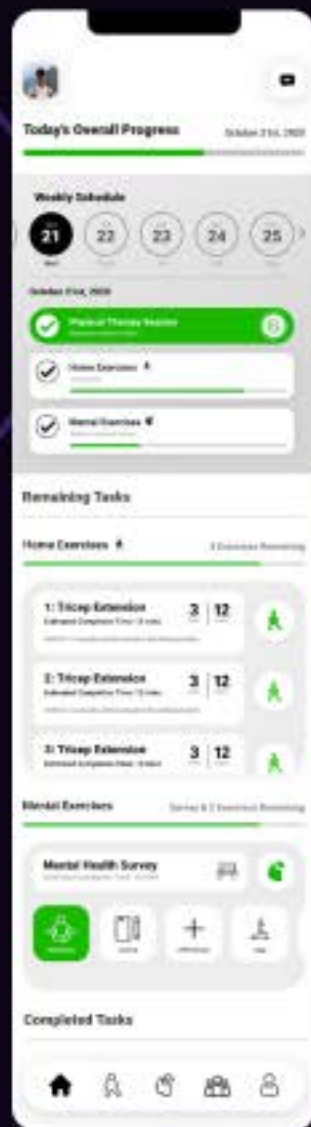


Mid-Fi Prototype



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User Testing Methods

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User Testing Methods

Quasi Empirical

Used a 1 to 5 system usability scale, and calculated the average score.

Questionnaire & Survey

Participants are asked 10 questions in a post test questionnaire and completed a 4 question survey



Quasi Empirical

System Usability Scale

- 1 - Strongly Disagree
- 2 - Disagree
- 3 - Indifferent
- 4 - Agree
- 5 - Strongly Agree

Average SUS Score = 77.3

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SUS Score	Rating
>80.3	Excellent
68-80.3	Good
68	Okay
51-68	Poor
<51	Awful

Post Test Survey

To gain specific insights on what to improve on, we followed up with a survey for our evaluators right after they finished testing.

What was your overall impression of the application?

What was the best and worst thing about the application?

How would you change the application?

How would you compare it to your in person physical therapy experiences?



User Feedback



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15

User Testers

2

Experts

What was the best thing about the application?

“The best thing I noticed from the application was being able to see your progress bar, I know it's there to motivate me to finish my work and I think it does just that.”

“The best thing I liked about the app was the progress bars and the mental aspect tab. I really liked how you are able to see daily progress and directly contact the therapist.”



What was the worst thing about the application?

“Make certain things priorities, add a checklist, and space for learning more about the app so its not information overload.”

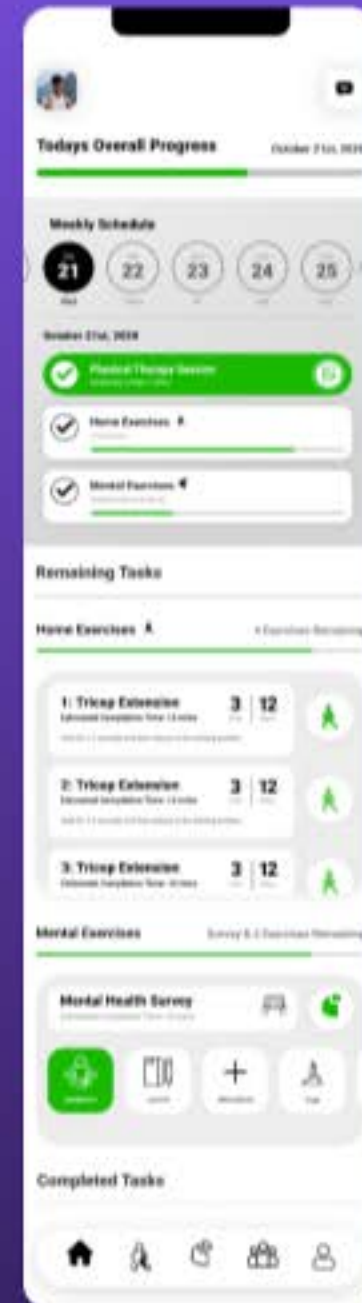
“Overall the app shows too many of its options all at once. I think adding clear tabs to open one part of a page at a time will be easier to navigate and understand.”



User Observations

Many users said the homepage was redundant and had information overload.

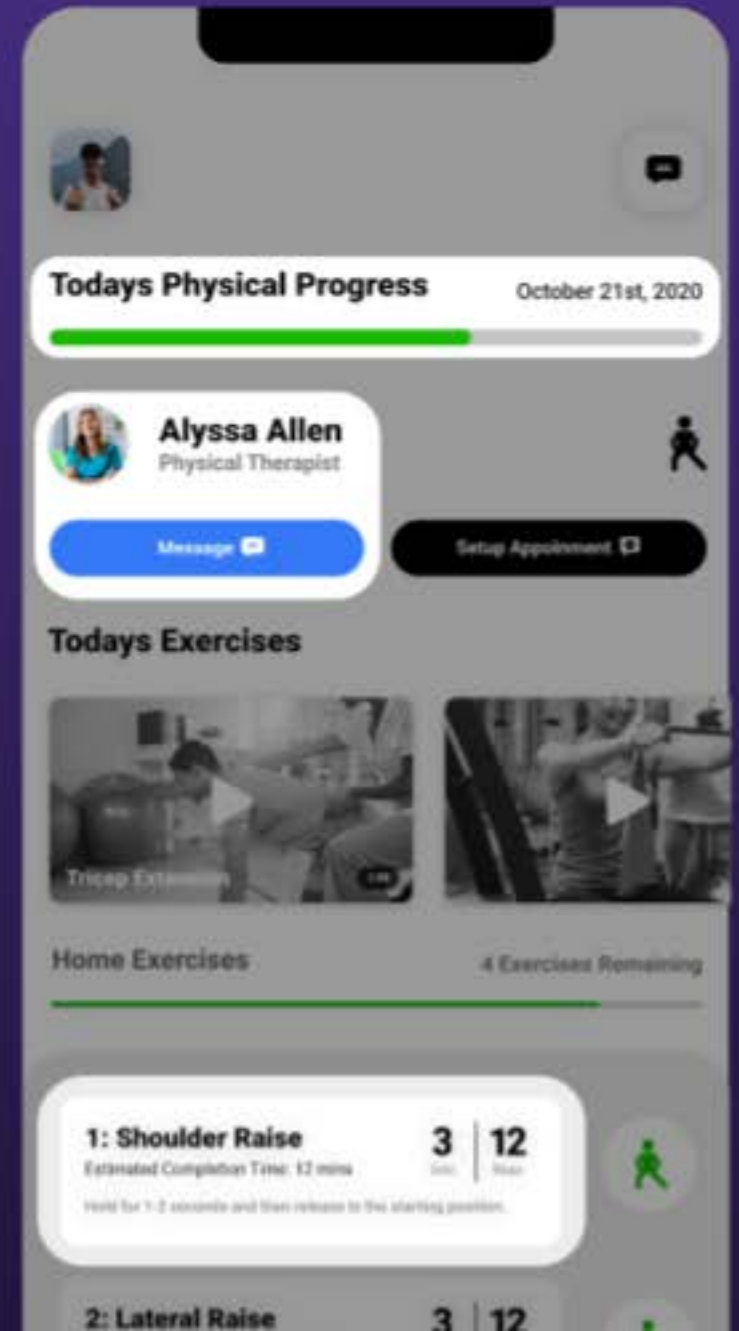
- “Home page may not be necessary, or just have it be schedule and profile, and the checklist is very redundant.”
- “The worst thing at this moment was the home page, it felt a bit hectic.”
- “Home page feels repetitive for the individual tabs.”



User Observations

Many users enjoyed the ability to see their workouts and directly connect with their therapist.

- “I liked how you can message your therapist, coach, and sports psych.”
- “The detailed workouts and customizable rep counter and other bells and whistles.”
- “I really liked how you are able to see daily progress and directly contact the therapist.”



Expert User Testing

...



Perceptual & Cognitive Human Factors



Wyatt Michel

UX Designer at IBM

SCAD UX Senior



Joseph Smith

UX Designer at IBM

SCAD UX Senior

Expert Testing Insights

- Information Hierarchy Issue
- Concerned of mental tasks overloading the athlete
- Make the team (PT, Sports Psych, and Coach) more of a focal point
- Provide step by step instruction when completing exercises



Mid-Fi Questionnaire Results



1) It is easy to get familiar with the platform



2) You were able to access your schedule conveniently without unnecessary effort



3) You felt in control of the interaction, it is secure and predictable



4) You were able to understand the navigation bar in the application



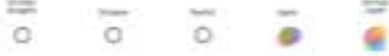
5) You felt excited and motivated to use the platform



6) Exercises were clearly explained and easily accessible



7) Being able to meet with the physical therapist and psychologist via app feels practical



8) You feel the mental health toolbox is beneficial and something practical you would use



9) Messaging and check ins from your group page are motivating



10) You would use this service and recommend it to others



- “Love the design, but the hierarchy is a bit off. There’s a lot of information at once and it feels like an overload.”
- “Everything was clear, but I want some sort of universal checklist instead of trying to find everything in all the pages.”
- “If it was kept up with, the messaging side of the app would be the most beneficial in my eyes.”
- “It’s not the same as in-person, but I could see myself using this as a replacement for at-home physical therapy.”

Changes to Mid-Fi

...



Perceptual & Cognitive Human Factors



After his daily exercise he completes a mental check in and meditation.



He connects his sleeve to the application and gets real time data while exercising his torn leg.



Throughout the whole process his "team" is there to track and support his progress.



He checks his schedule then goes to begin his first exercise of the week.



After Nathan injures his left quad he signs up for Cora to start completing his four month physical therapy journey.

CORA


Ratifying Your Recovery

A wearable smart sleeve that provides muscle activation data, paired with a mobile application that connects athletes with their physical trainer, sports psychologist, and coach to create a seamless at-home physical therapy experience.





Our Final Solution

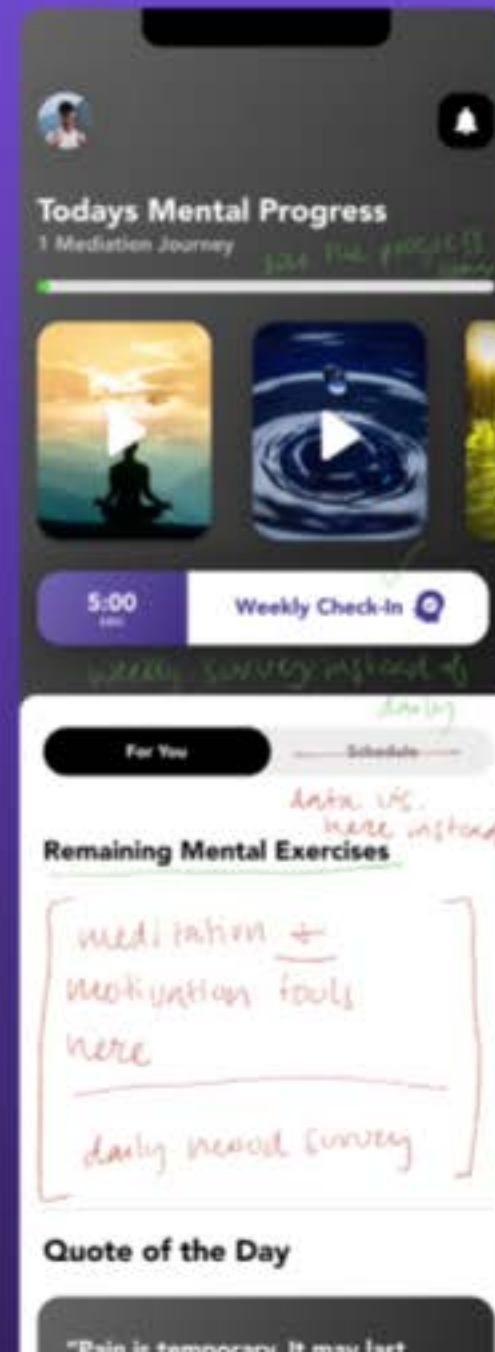
Drumroll please... 

Changes to Hi-Fi

- Shifting focus to data visualization on both physical and mental pages
- Add flexibility and heart rate to physical page
- Adding pop up suggesting care after rating pain 8 or more on 3 exercises
- Add content to mental tab

Mental Page Changes

- Add a info visualization section to match the physical page
- Add a daily survey to have data for the data visualization.
- Remove schedules tab



Quote of the Day

"Pain is temporary. It may last minute, or an hour, or a day, or a year, but eventually it will subside and something will take its place."

Lance Armstrong

like the quote

Articals For You

find more relevant



Medium

9 min read

The #1 Thing You Need to Do to Recover from a Torn Quad



THE PLAYERS' FRISKY

Nobody Wants to Be a Comeback Story

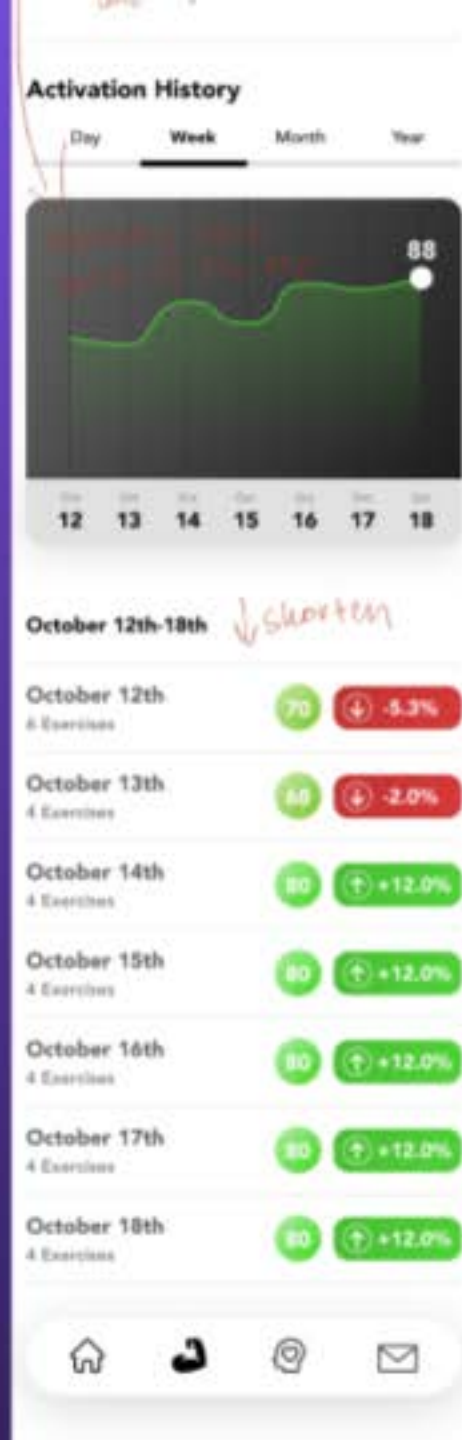
THE PLAYERS' FRISKY

I Am Who I'm Meant to Be



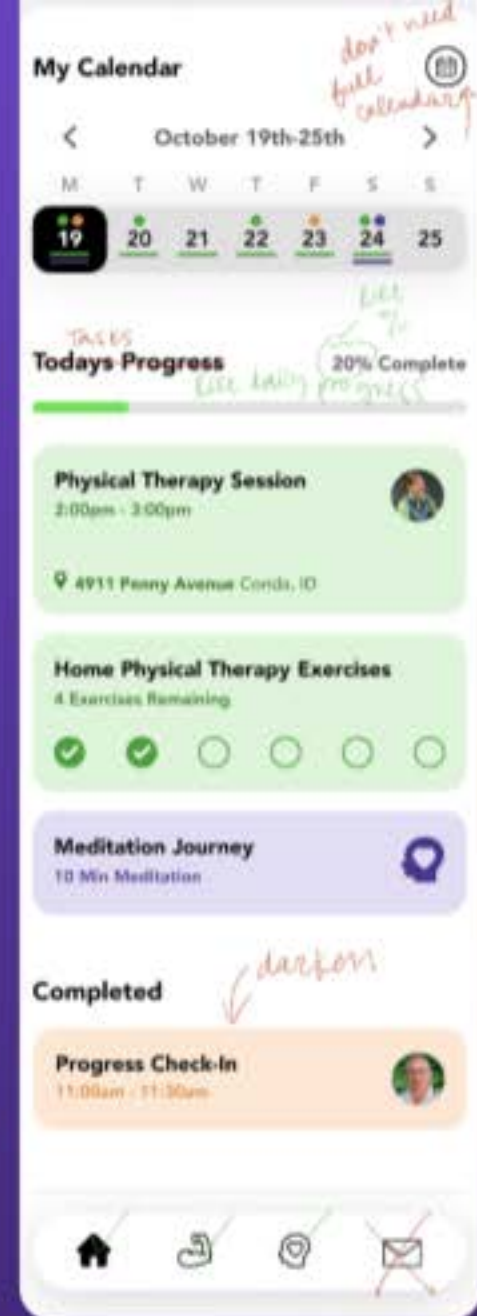
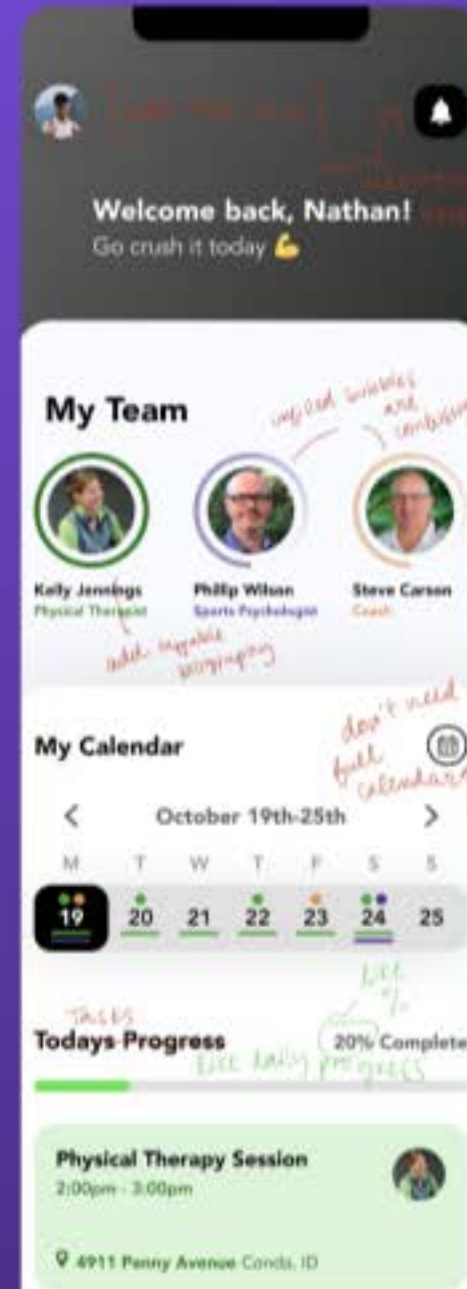
Physical Page Changes

- Add more info visualization under recovery (Mobility, Heart Rate, Intensity, etc.)
- Remove the schedules tab
- Replace the pie chart at the top of page with the line graph at the bottom



Home Page Changes

- Take messages out of the global navigation and move it to where the notifications icon is
- Eliminate expanded calendar button and add a drop down menu
- Remove the half opacity offline ring behind team members to make the color more obvious
- Change "Todays Progress" to "Todays Tasks"



Changes to High-Fi

...



Perceptual & Cognitive Human Factors

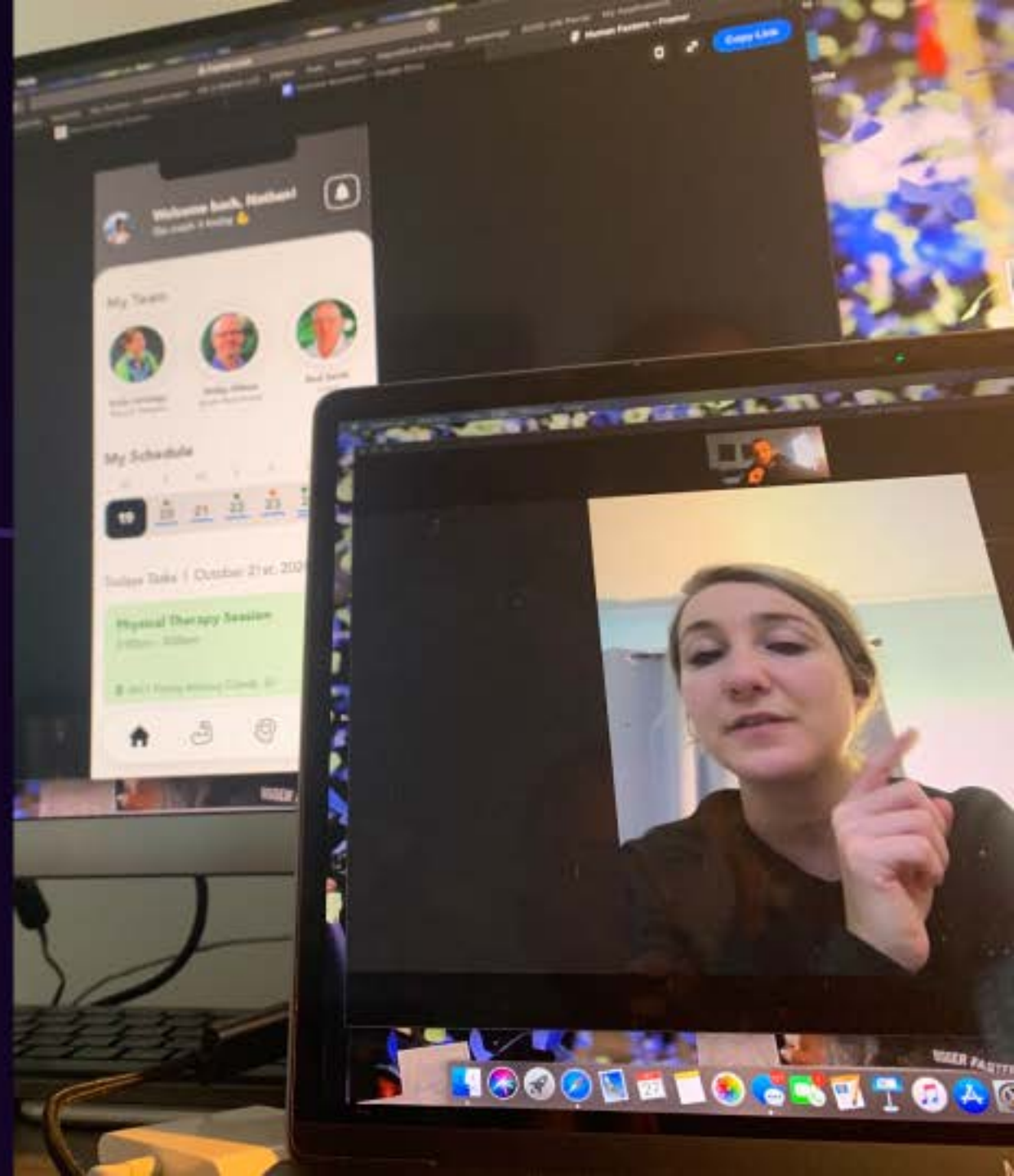
Hi-Fi Questionnaire Results



- "I like the color coding. It's a little hard to tell what each color represents at first, but when I got it, I liked how organized it was."
- "I wish the smart sleeve would give more information, like mobility, flexibility, heart rate, etc."
- "This would take a huge load off trying to go in and see my physical therapist all the time. I'd rather do it online."
- "The most important thing for me is the data visualization. What do I need to know, and where can I find that information?"

Expert Testing Insights

- Much improved info arch and navigation
- Something that PT's need today
- Loved some of the data visualization
- Concerned on the possible cost of the smart sleeve
- Add data visualization to the mental page





Aylssa Dorney

Physical Therapist
Loyola Honors Graduate



Joseph Smith

UX Designer at IBM
SCAD UX Senior

Expert User Testing



• • •

Perceptual & Cognitive Human Factors

Hi-Fi Testing Insights

- Better organization of data and visual hierarchy improved
- Still some redundancies in information
- Users want more data visualization, especially included in the mental health side of the application.
- Love the idea of the smart sleeve, but how accurate and expensive is the tech?

• • •



7

User Testers

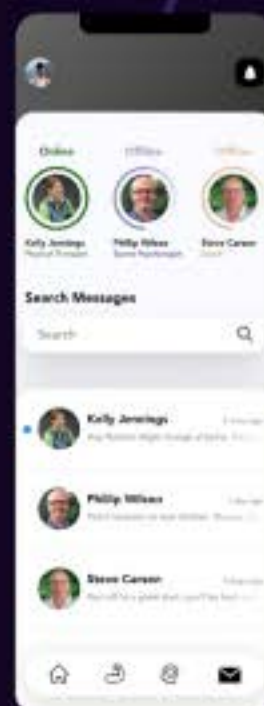
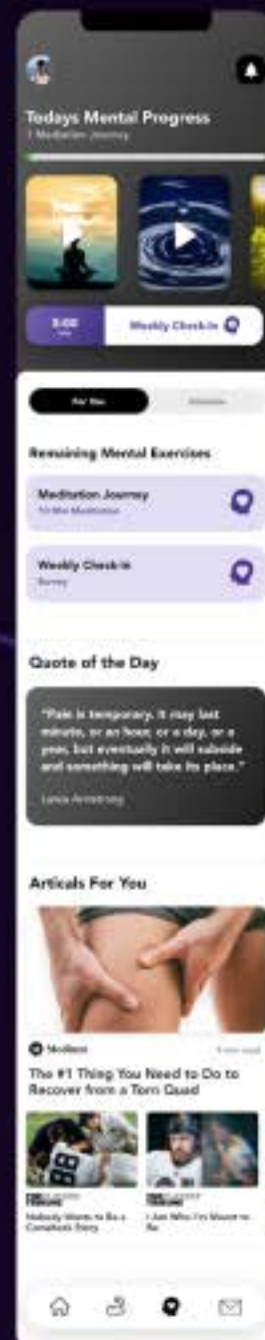
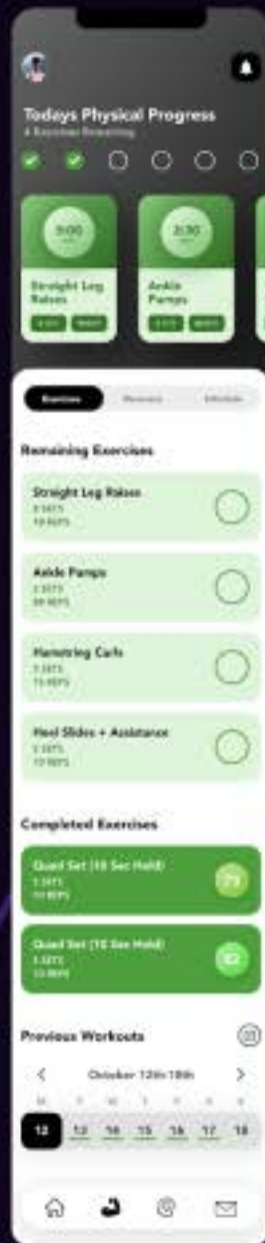
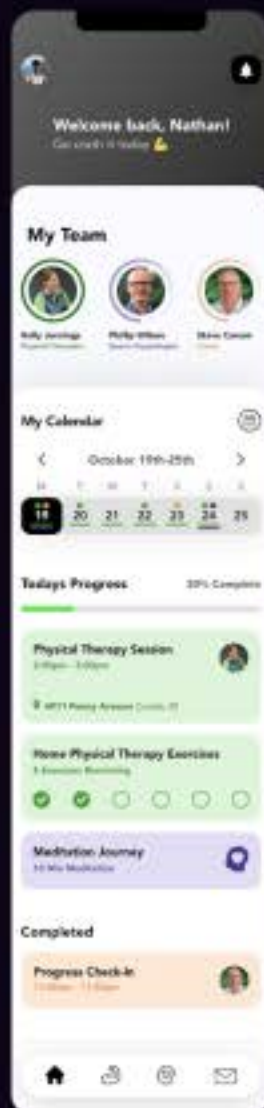
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Experts

User Feedback



Perceptual & Cognitive Human Factors



High-Fi Prototype

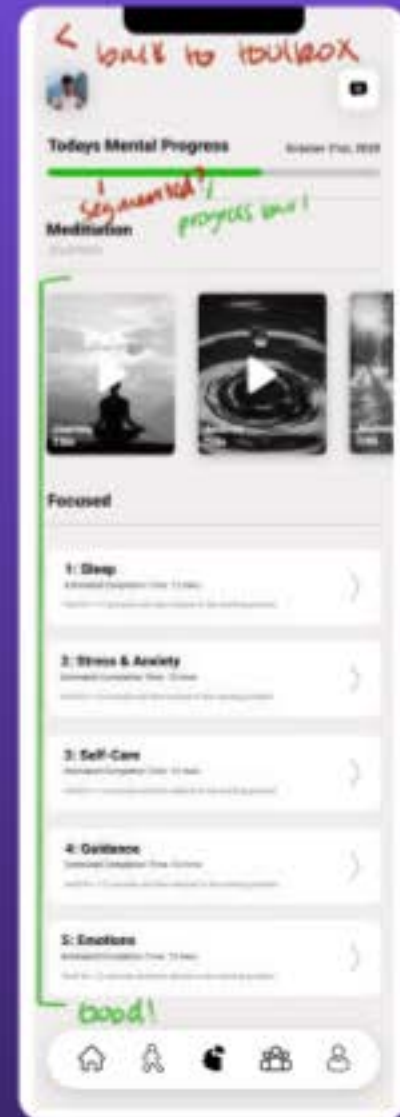


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Perceptual & Cognitive Human Factors

Mental Page Changes

- Change page icon
- Add content other than meditation journeys
- Add data visualization to match physical



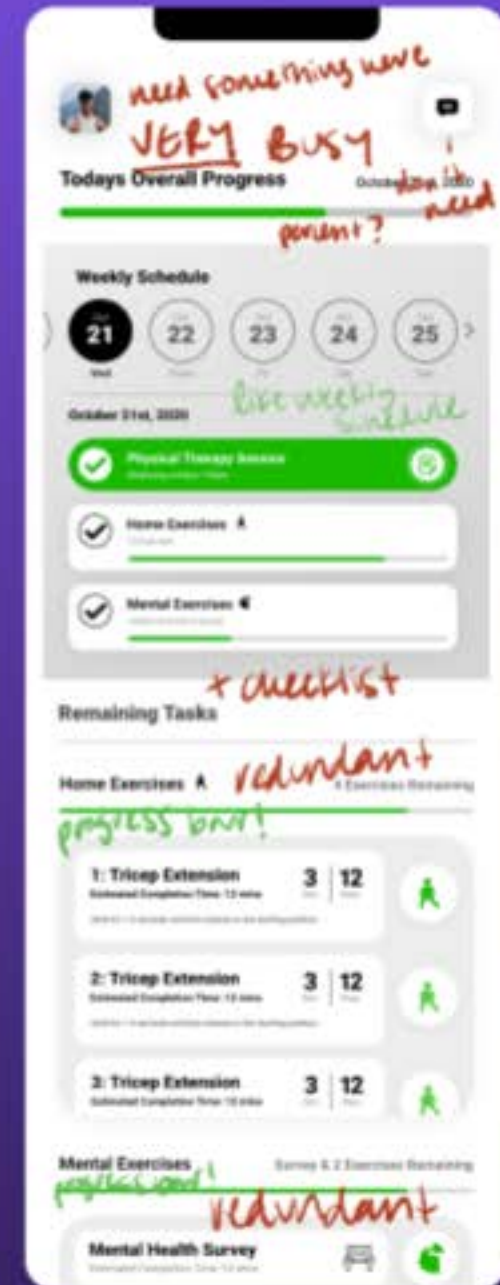
Physical Page Changes

- Remove videos of the assigned exercises
- Change progress bar to a segmented checklist
- Add data visualization for smart sleeve



Homepage Changes

- Remove progress bar for both mental and physical exercises
- Add a monthly view to the schedule
- Add clickable profiles of the PT, Sports Psych, and Coach at the top
- Remove message button in the top right



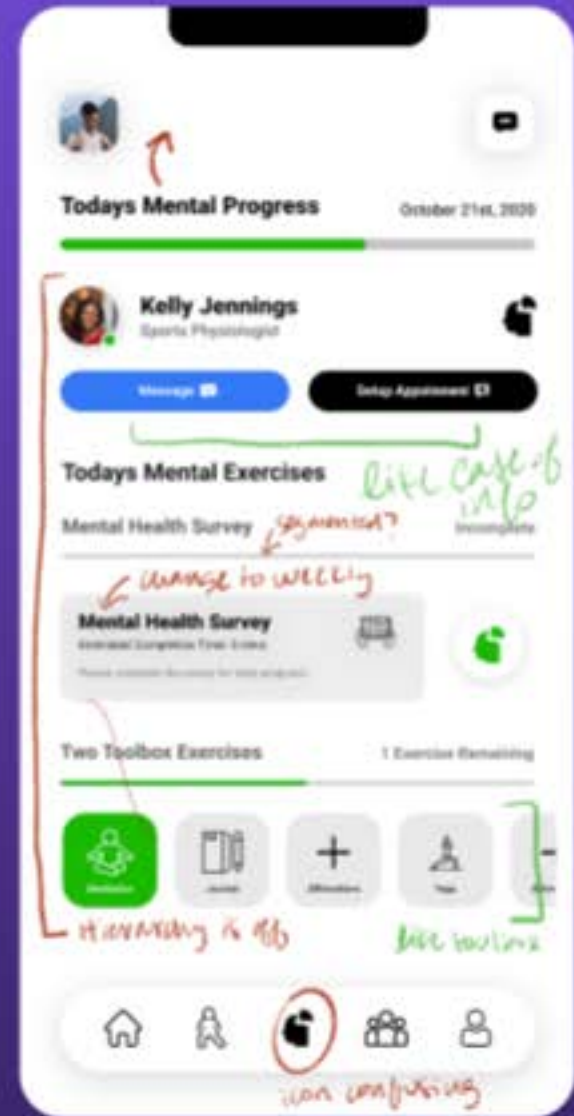
User Observations

Many users enjoyed the ability to see their workouts and directly connect with their therapist.

"I liked how you can messge your therapist, coach and physiologist."

"The detailed workouts and customizable rep counter and other bells and whistles."

"I really liked how you are able to see daily progress and directly contact the therapist."



Changes to Mid-Fi

- Change information hierarchy on home, physical, and mental tabs
- Remove “community” tab
- Adding pop up suggesting care after rating pain 8 or more on 3 exercises
- Add content to mental tab

High-Fi Prototype

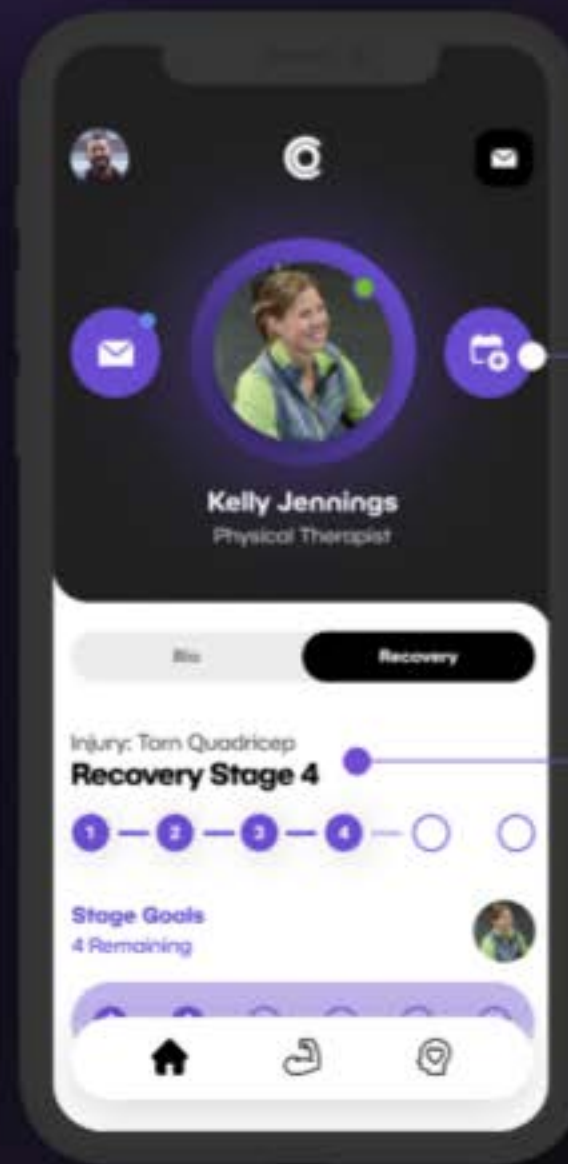
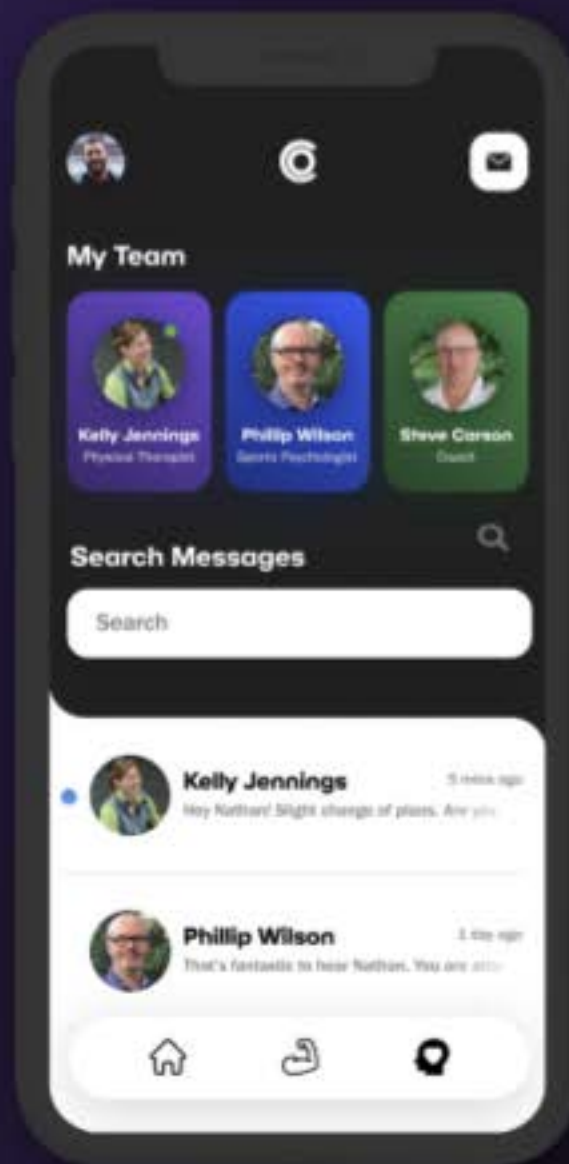




Color assigned team members (PT, Sports Psych, and Coach) paired with a calendar making it easy for athletes to stay on top of their recovery plan

See your daily tasks for the day to help you stay on track

Direct message your
PT, Sports Psych, and
Coach at anytime in
the app.

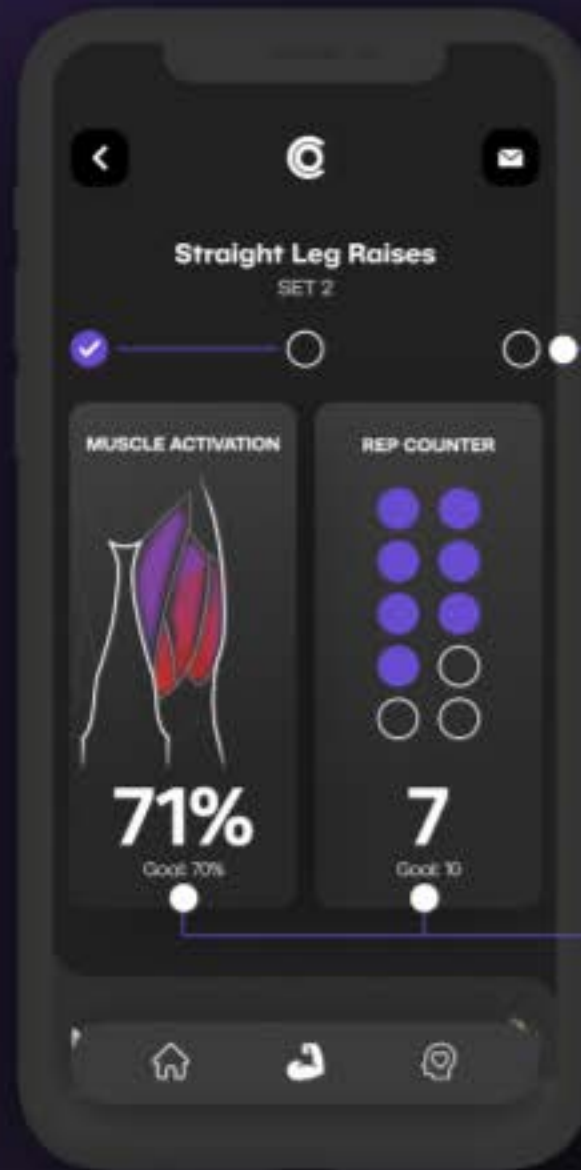
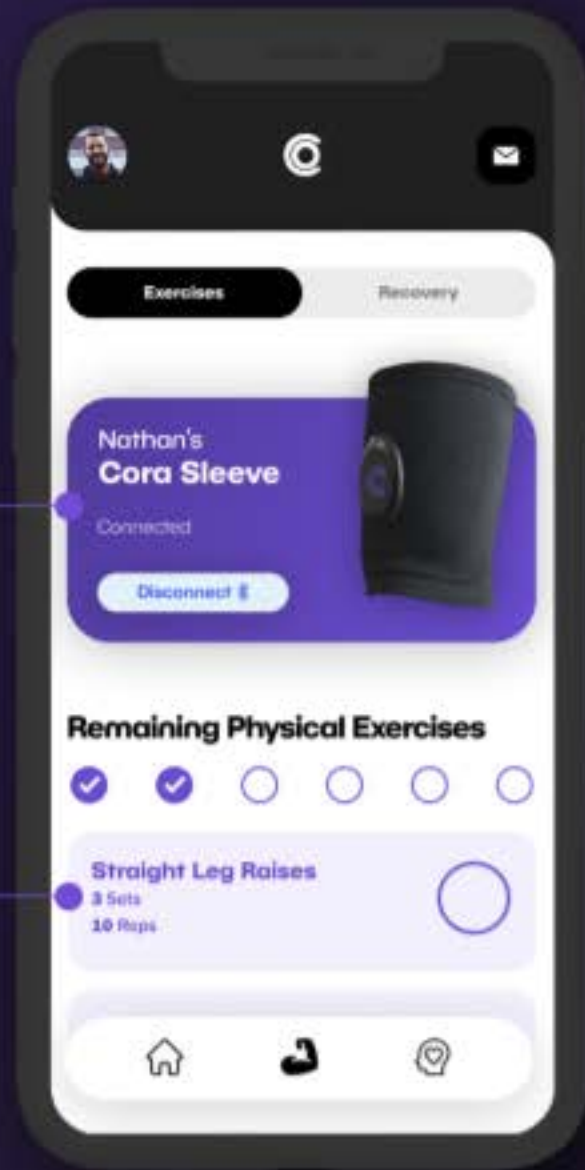


Schedule an in person
appointment or call

Track recovery stage
and goals set by
Physical Therapist

Connect your Cora smart sleeve directly through the app

See assigned physical therapy exercises from your PT



Exercise Set Progression

Live muscle activation and rep counter while doing exercises

Overall muscle activation and completed reps for each set

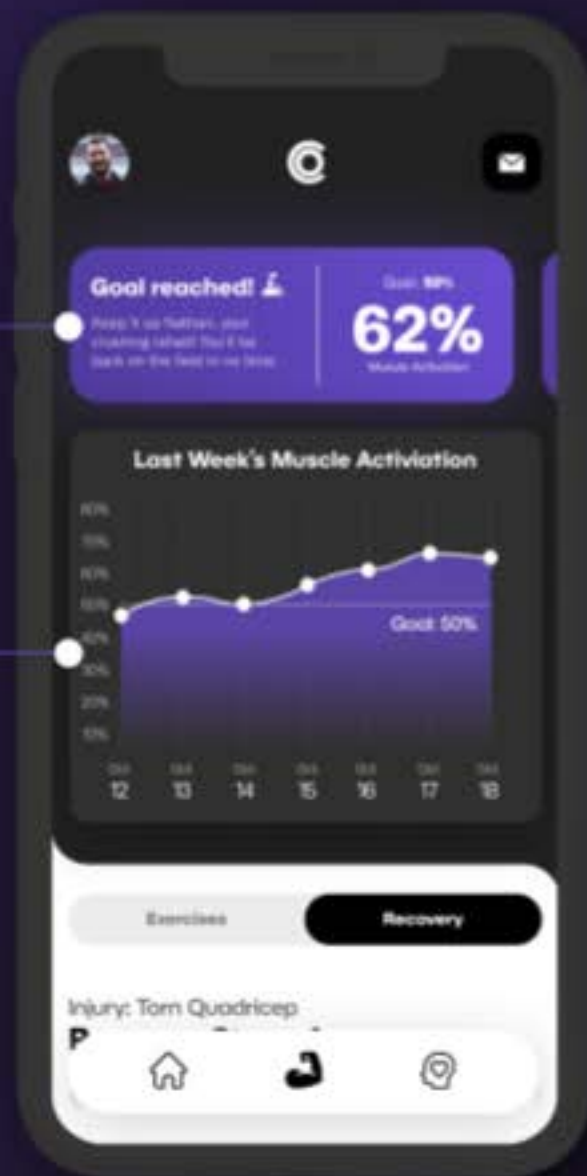
Pain scale to provide feedback to PT



During exercises Cora can provide suggestions using real time data to make sure athletes are getting the most of their exercises

Goal gradient for reaching recovery goals

Information Visualization



Muscle Activity

Heart Rate

Muscle Heat Map: 62%



Muscle Heat Map

Rectus Femoris 24%



Vastus Intermedius 71%

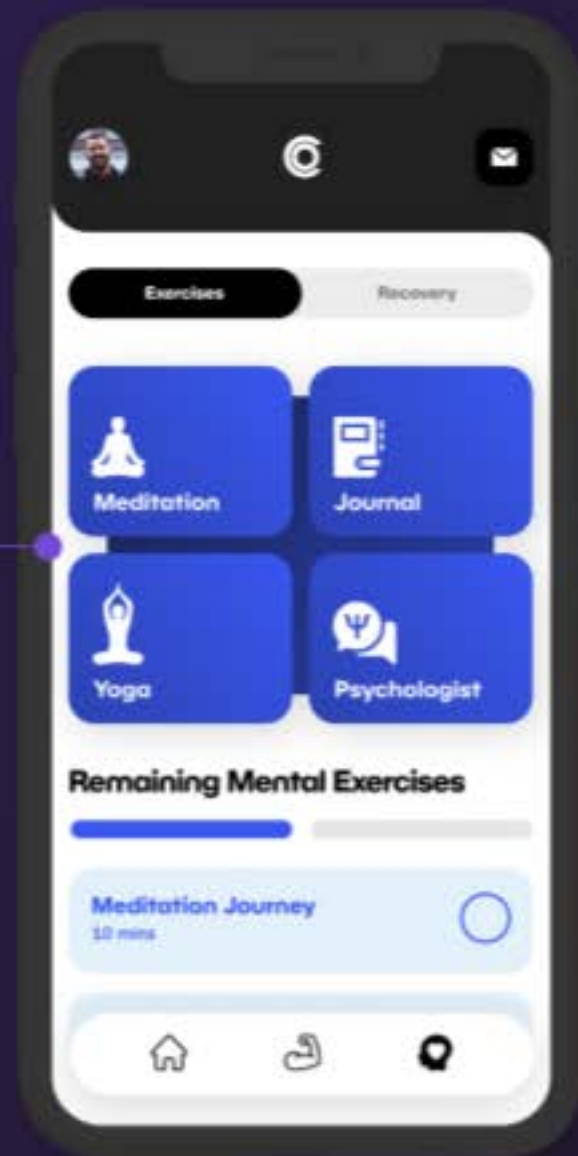


Vastus Lateralis 78%

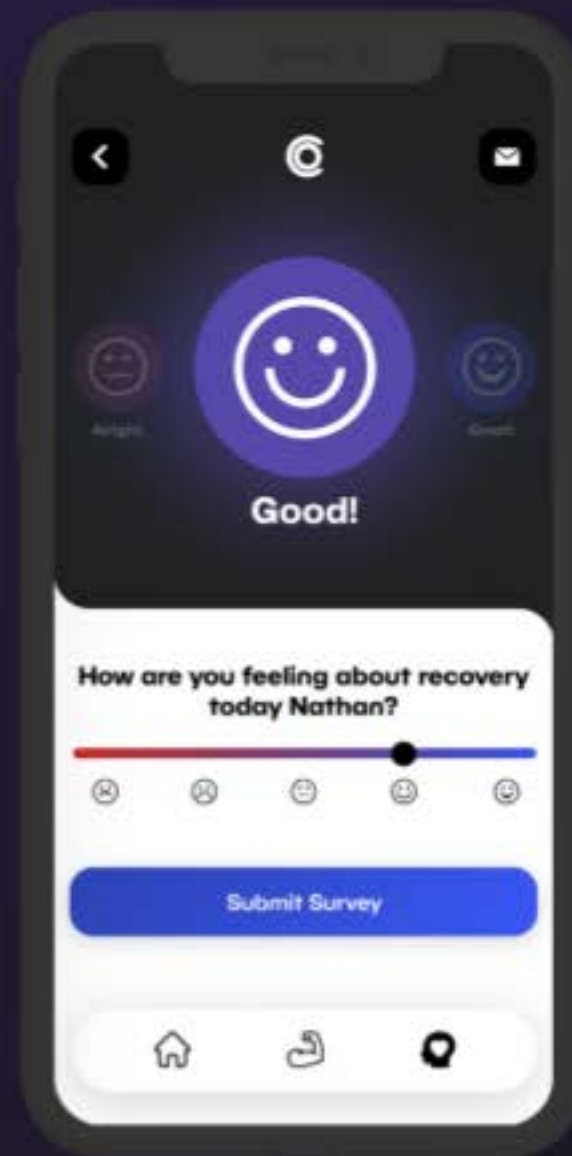


Individual muscle goals and current activation

Toolbox to provide athletes mental resources during recovery



Daily mental survey for provide athletes data on how their feeling during recovery.



Goal gradient for reaching mental goals

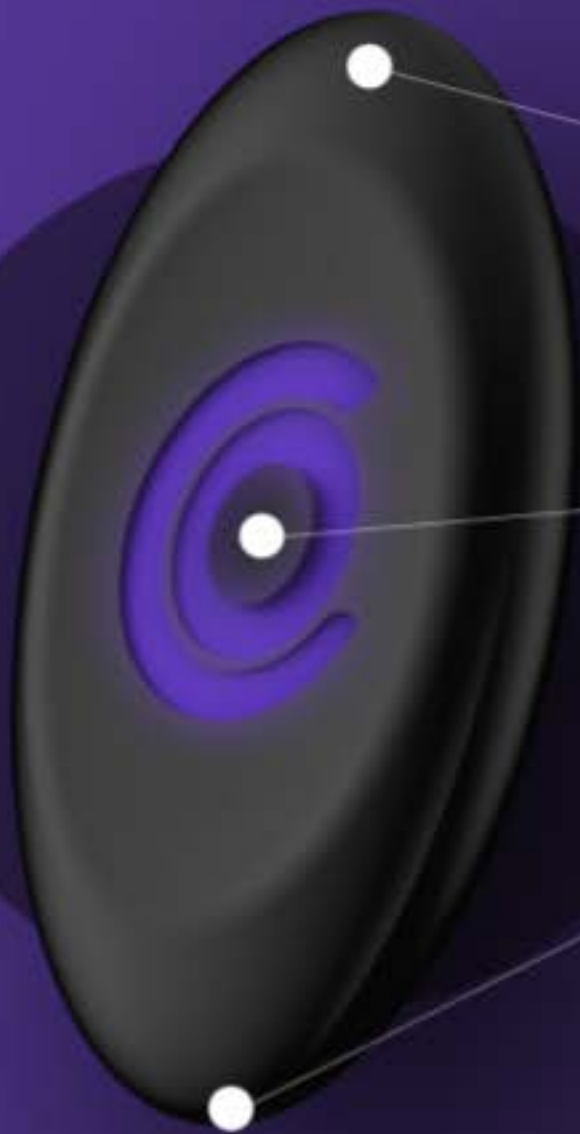
Pain scale information visualization



Information visualization using data from daily survey.



Product Prototype

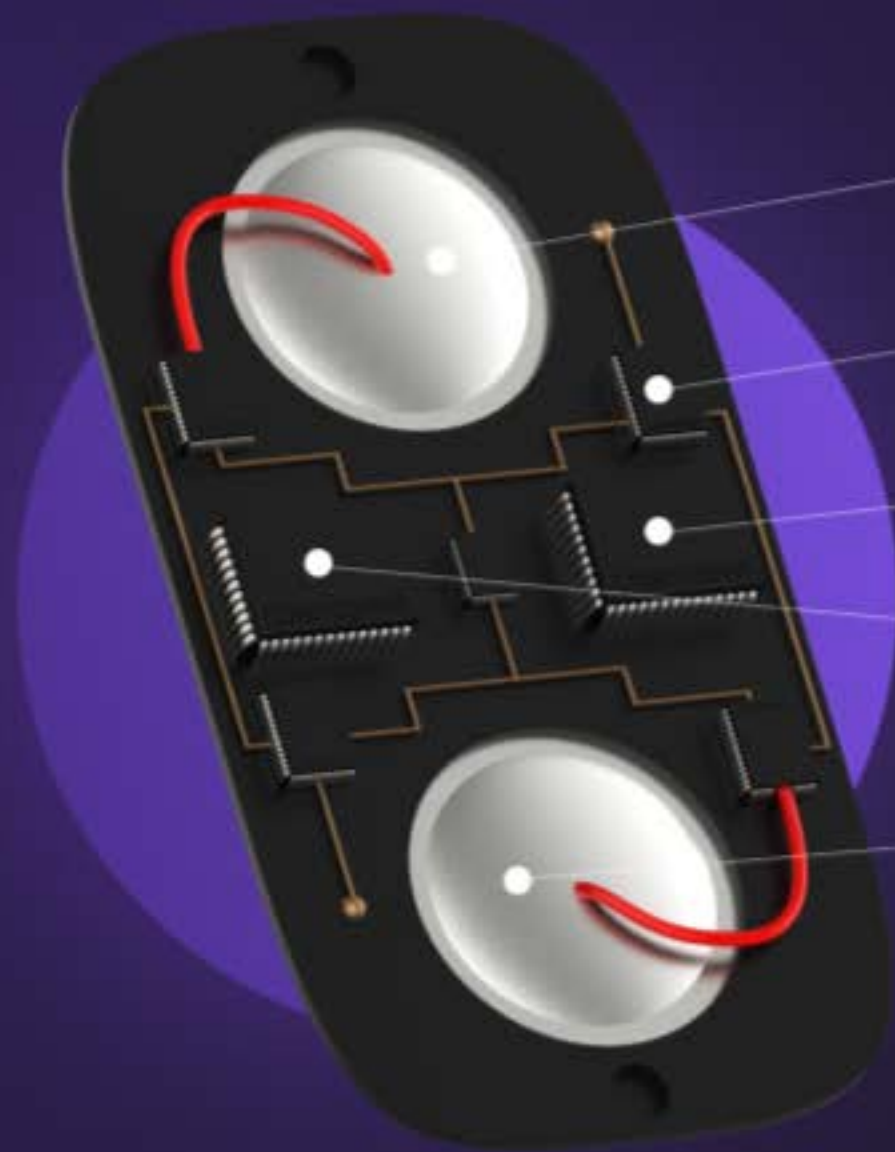


Case: \$1

Button: \$0.50

Charger: \$1

Total: \$2.50



EMG: \$38

Bluetooth: \$1

Data Storage: \$1

Battery: \$1

Heart Rate Sensor: \$1

Total: \$42



Sleeve: \$10

Electrodes: \$25

Total: \$35

Overall Primary Cost

\$78

Retail Price

\$200

Profit Percentage

156%

Sleeve

Manufacturing Cost: \$35

Retail Cost: \$100

Sleeve Profit: 185%

Pod

Manufacturing Cost: \$43

Retail Cost: \$100

Sleeve Profit: 131%



How does this **CORAlate** with our factors?



Physical Thriving

- Physical therapy with Cora makes sure you're on track to get back into excellent physical condition.
- With Coras info visualization it makes sure your body is getting the perfect amount of exercise, while also ensuring you don't strain your body.
- With Coras mental health aspect and strong motivation from your team, athletes will feel a strong sense of well being.



Competence

- Using Cora the athlete will be able to see their overall progress, resulting in a feeling of self success.
- Physical therapy is a challenging task within itself but, with cora the athlete will also be able to visualize that they are mastering these exercises.
- Coras goal is for the athletes to feel accomplishment and show they are capable to have an efficient recovery.



Our Final Deliverables

Vision Video

CORA

Ratifying Your Recovery



<https://www.youtube.com/watch?v=Nj6HcZBouAM&feature=youtu.be>

CORA

Executive Summary



The Problem

Athletes need a personalized and comprehensive recovery plan that focuses on both the physical and mental components of an injury with an easier way to track their progress.

The Solution

A wearable smart sleeve that provides muscle activation data, paired with a mobile application that connects athletes with their physical trainer, sports psychologist, and coach to create a seamless at-home physical therapy experience.



Application

- Fast connections to your PT, Sports Psychologist, and Coach
- Workouts provided directly from the PT with fast feedback
- Mental Health Resources
- Comprehensive Information Visualizations

Sleeve

- Direct connection to CORA's application
- Electrodes in the sleeve measure muscle activation, as well as a heart rate sensor to measure workout intensity

Poster

CORA

Ratifying Your Recovery

The Problem

All ages need a personalized and comprehensive recovery plan that focuses on both the physical and mental components of an injury with an easier way to track their progress.

The Solution

A wearable smart sleeve that provides inside activation data, paired with a mobile application that connects athletes with their physical trainer, sports psychologist, and coach to create a seamless at-home physical therapy experience.



Team

Use your team along with upcoming resources with your therapist, psychologist, and coach. Also, use your resources only for the day to help coverage at home.



Physical

Connect with your smart sleeve to gain direct data of muscle activation. Use your data with your team along with the therapist to help coverage and understand your recovery.



Mental

Connect with your smart sleeve along with the therapist, psychologist, and coach to gain direct data of muscle activation. Use your data with your team along with the therapist to help coverage and understand your recovery.

Our Process

We conducted a 12-week design sprint focusing on the athlete's recovery experience, and finding where tech could most improve it.



User Interview



Survey



User Interview



Sports Coach



User Interview

IAGT 37% Fall 2020



Professor Sung Park

Sebastian Mikolajewski
Project Lead

Sebastian Mikolajewski
Product Design

Taylor Roseworthy
Design Research

Sara Williams
Interface Design

Sebastian Mikolajewski
Product Design

Lookbook

CORA

Ratifying Your Recovery





Thank you!