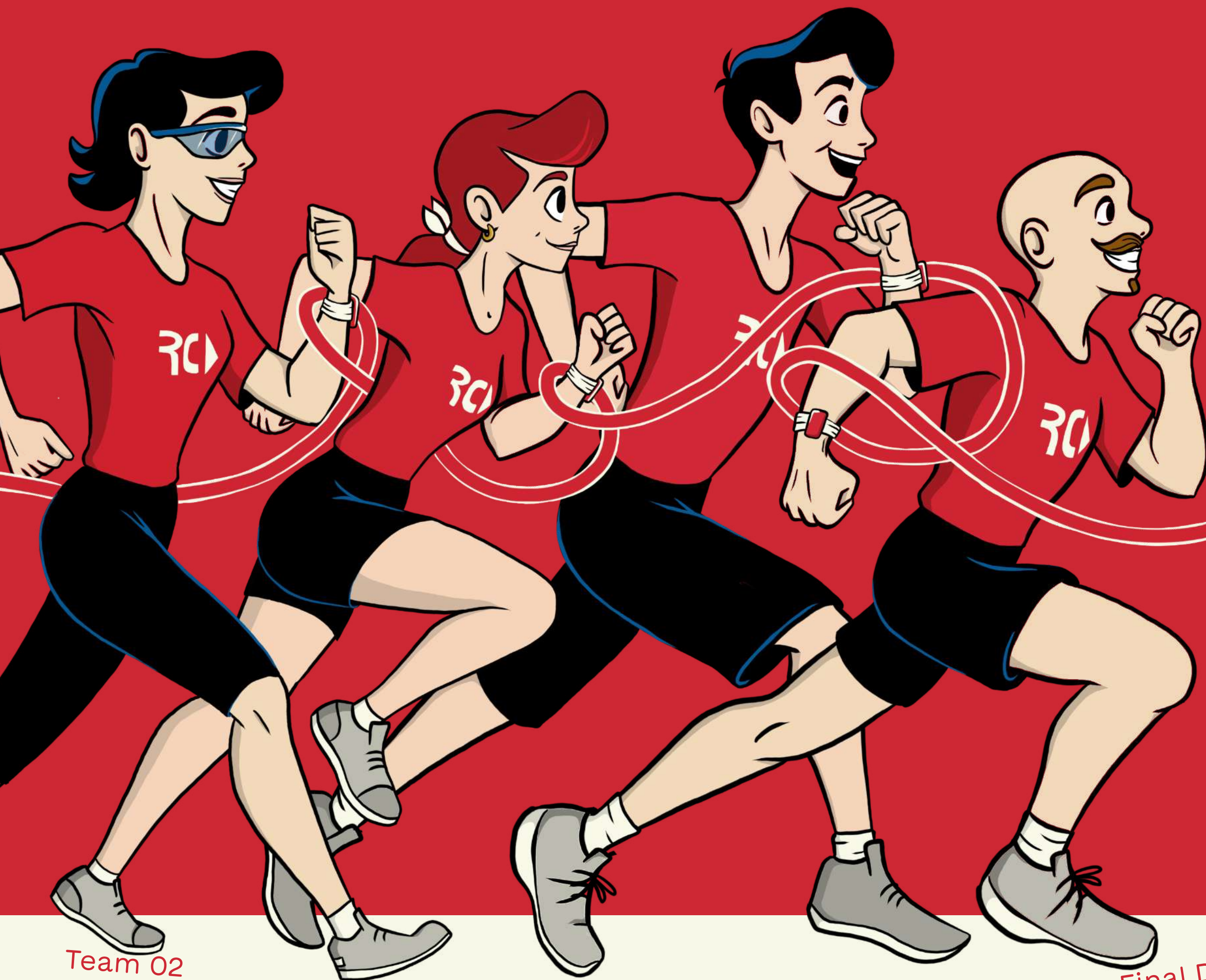


Bloeky

Never Left Behind

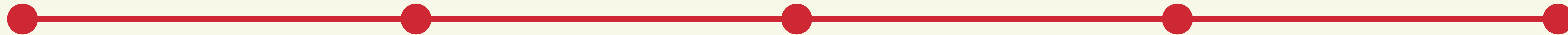


Team 02

Final Design Studio

Alessio Brioschi
Zeynep Erol
Defne Kocamustafaogoullari
Mayukh Das
Gianluca Zoni

20/12/23



Research

- Literature Research
- Observation
- Interviews

Concept

- New meaning
- Audiovisual Scenario
- Key Fetures
- Techincal Development

MVP

Madness

- Stand
- Demo
- Feedback

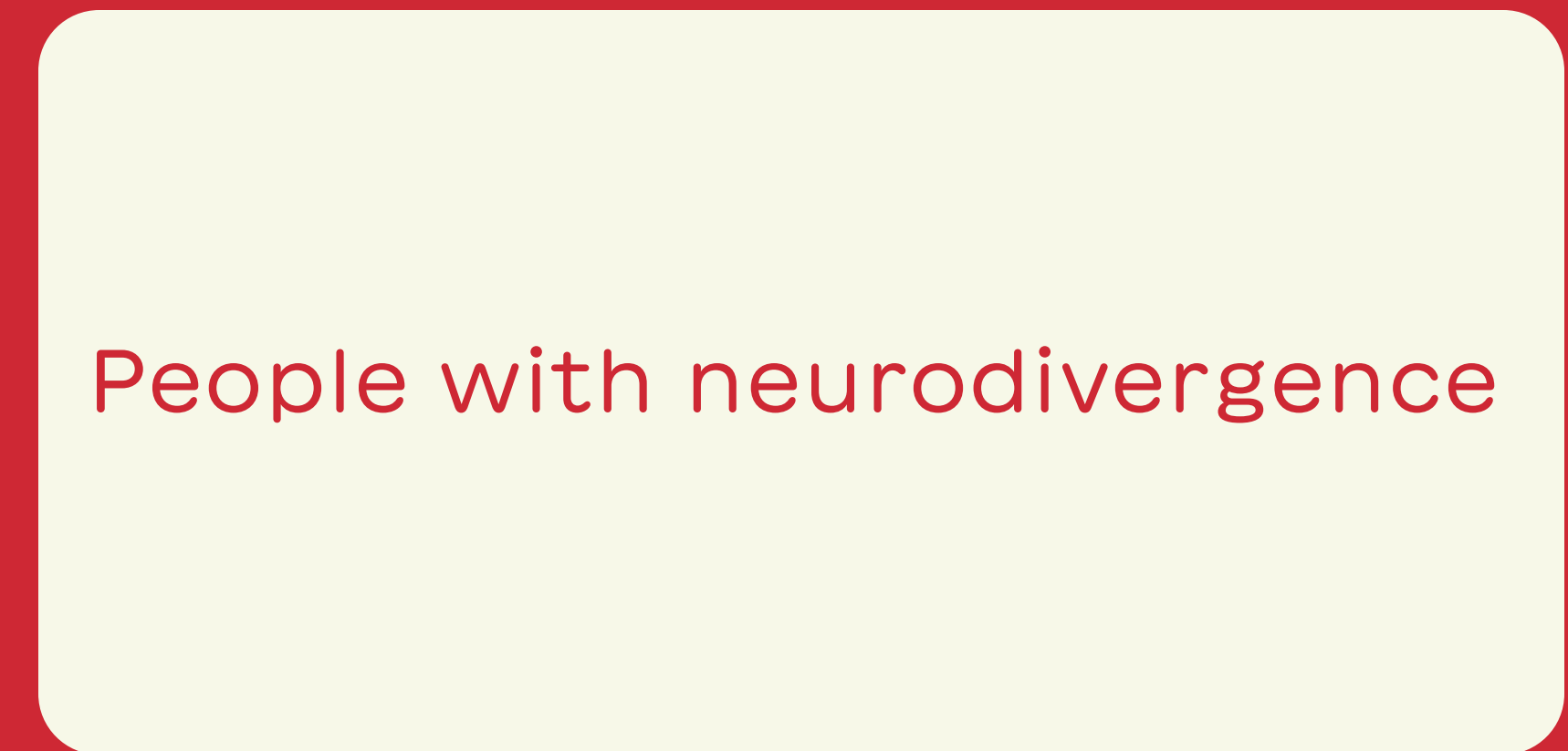
Next Steps

Natural Interaction

Unobtrusive

Enhance main activity

Tacit Knowledge



Demographics

In the field, the majority of focus is directed towards kids, not adults

Well-being

Sports activity has been proven beneficial for neurodivergent people

Community

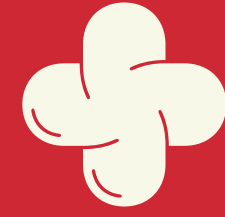
Physical activity fosters a sense of community by bringing people together thus fostering relational skills

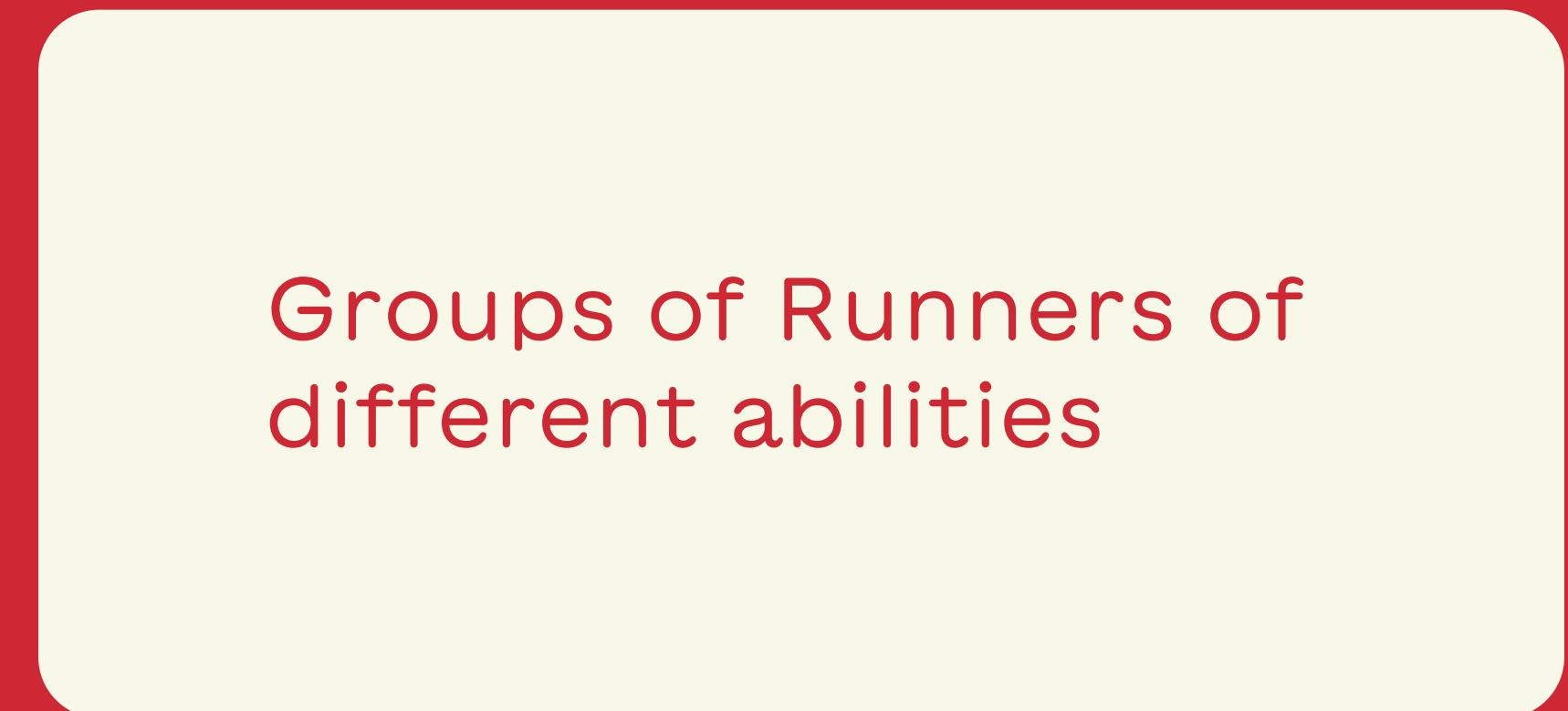
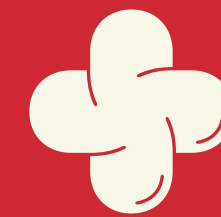
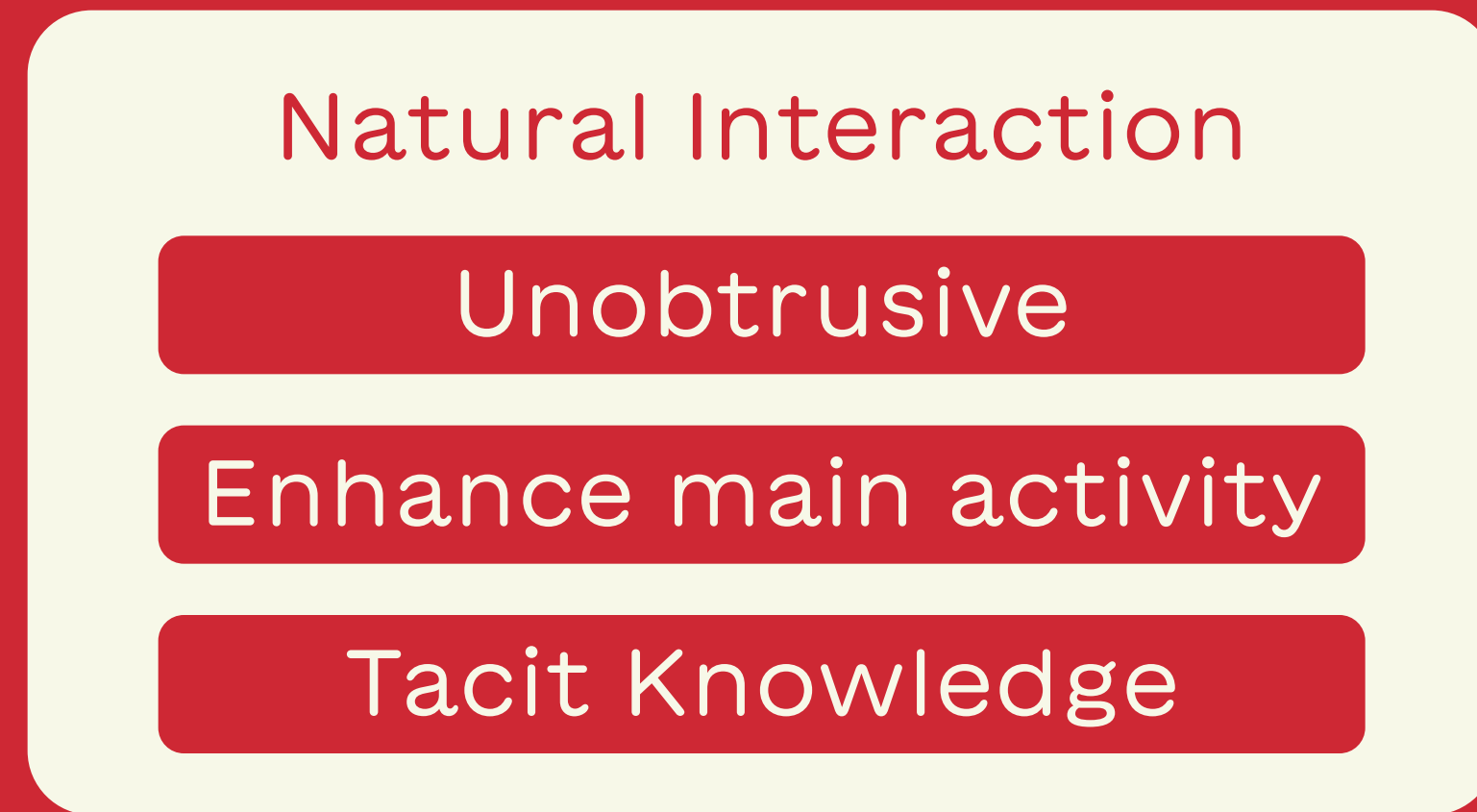
Natural Interaction

Unobtrusive

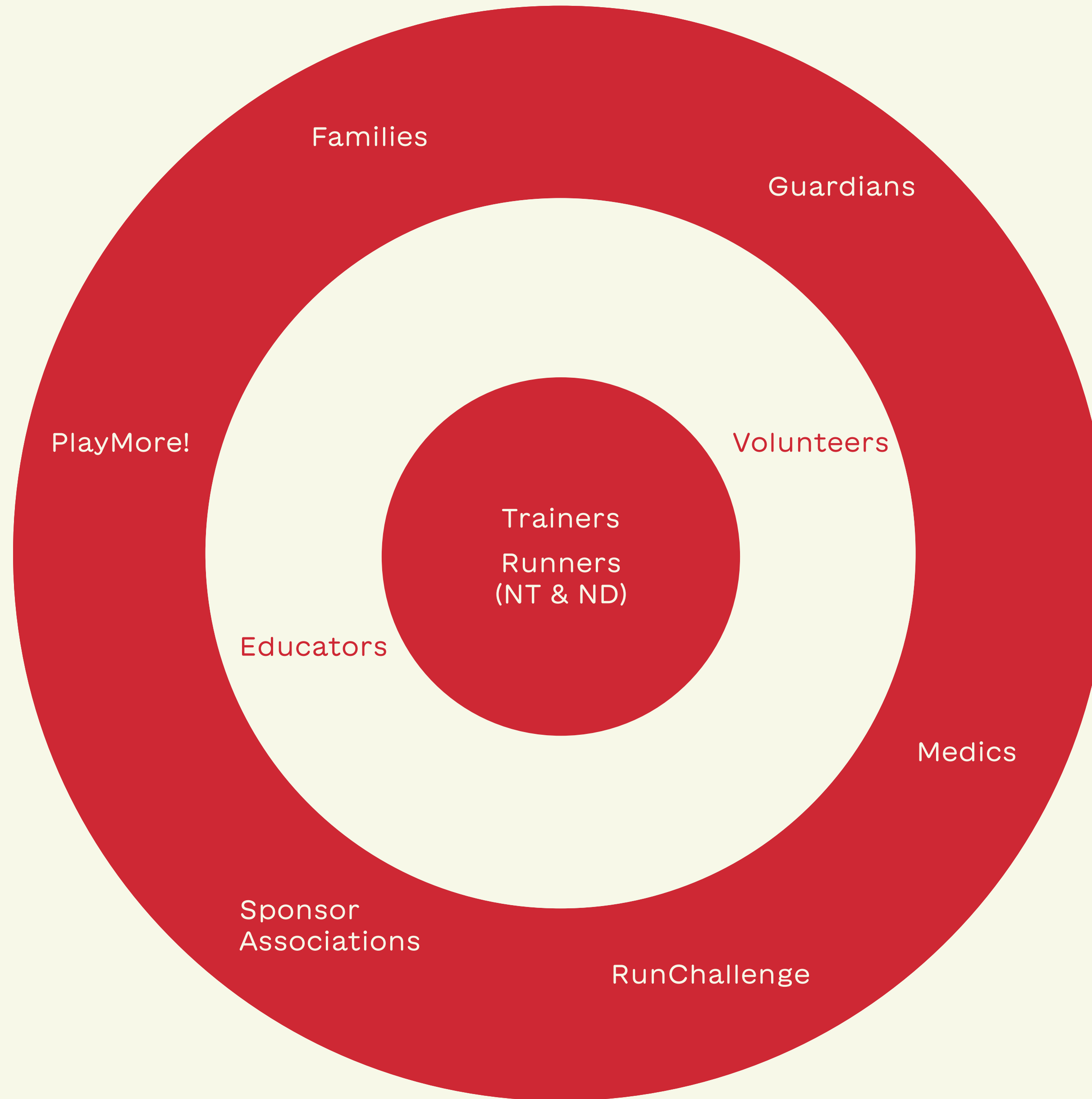
Enhance main activity

Tacit Knowledge





CONCEPT



Sport Activity



Main Actors

-  ND Runners
-  NT Runners
-  Trainers
-  Educators & Volunteers



How might we
make the sport activity feel safer
both for runner and for trainers
so that they can focus on the activity
itself and build a better communication
between each other?

Runners

Be Physically
and Mentally Active

Need to feel in Control

Social Activity
in a Community

Trainers

Provide Safety
during the activity

Receive Real-Time
Feedbacks

Help the Runners enjoy
the training

Association

Gather data to validate the
effectiveness of trainings

Guarantee the safety of
its members

Alexio Brioschi

Mayukh Das

Defne Kmo

Eleonora Beccaluva

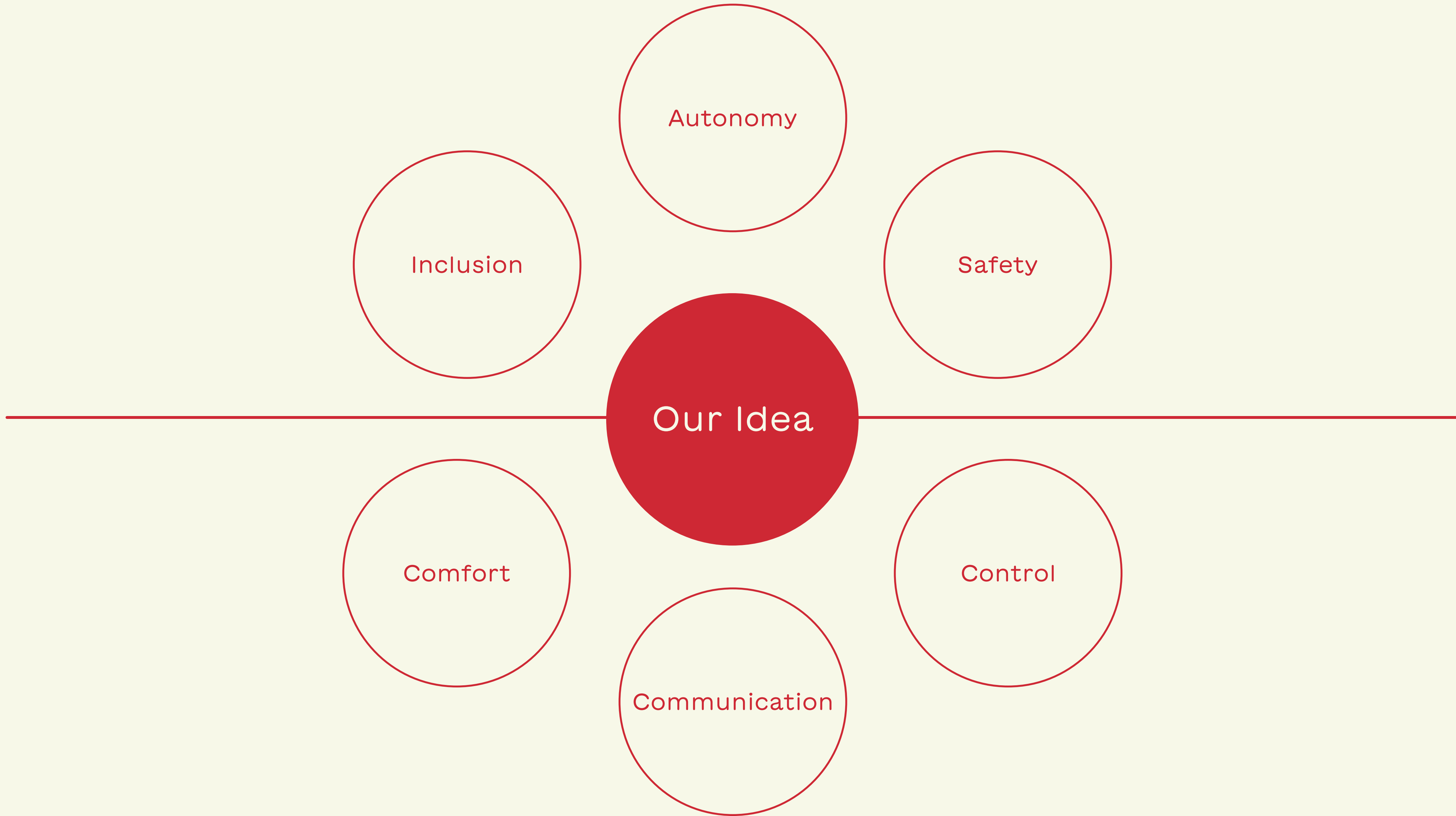
davide lovino

Zeynep Erol

Gianluca Zoni

4:06 PM | ffo-ypri-sao

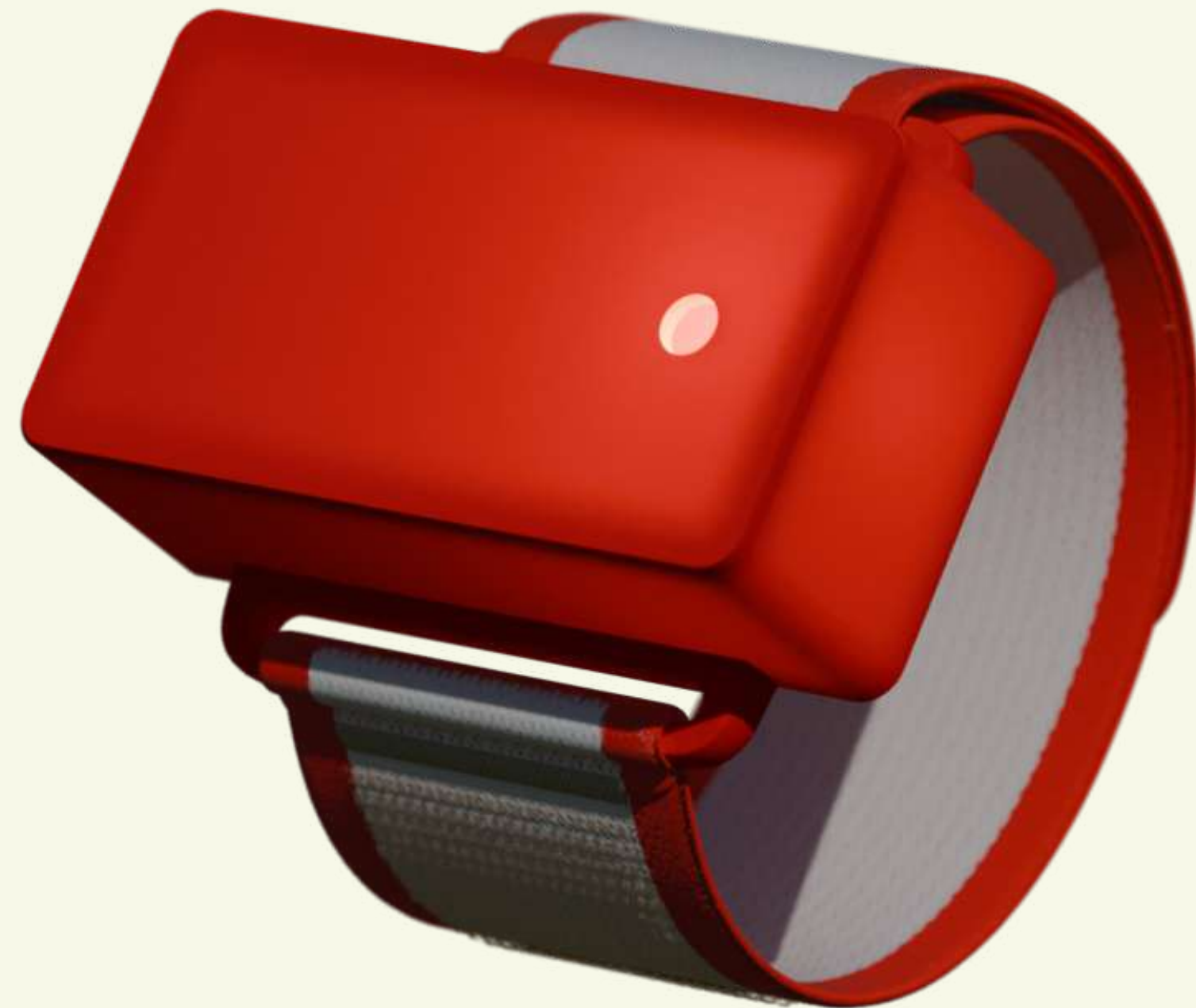
7



BOOBY
Never Left Behind

Physical

Wearable Device



Digital

Smartphone App



Key Design Features

What

How

Smart Band

Wearable

Non-Intrusive

P2P Communication

Proximity Tracking

Vibration & Light Feedback

Connection for Data Transfer

- Comfortable Strap
Small Enclosure
- BLE Proximity
- Haptic Feedback (LRA)
- RGB LED
- Bio-Sensors (ECG)

Application

Planning Workouts

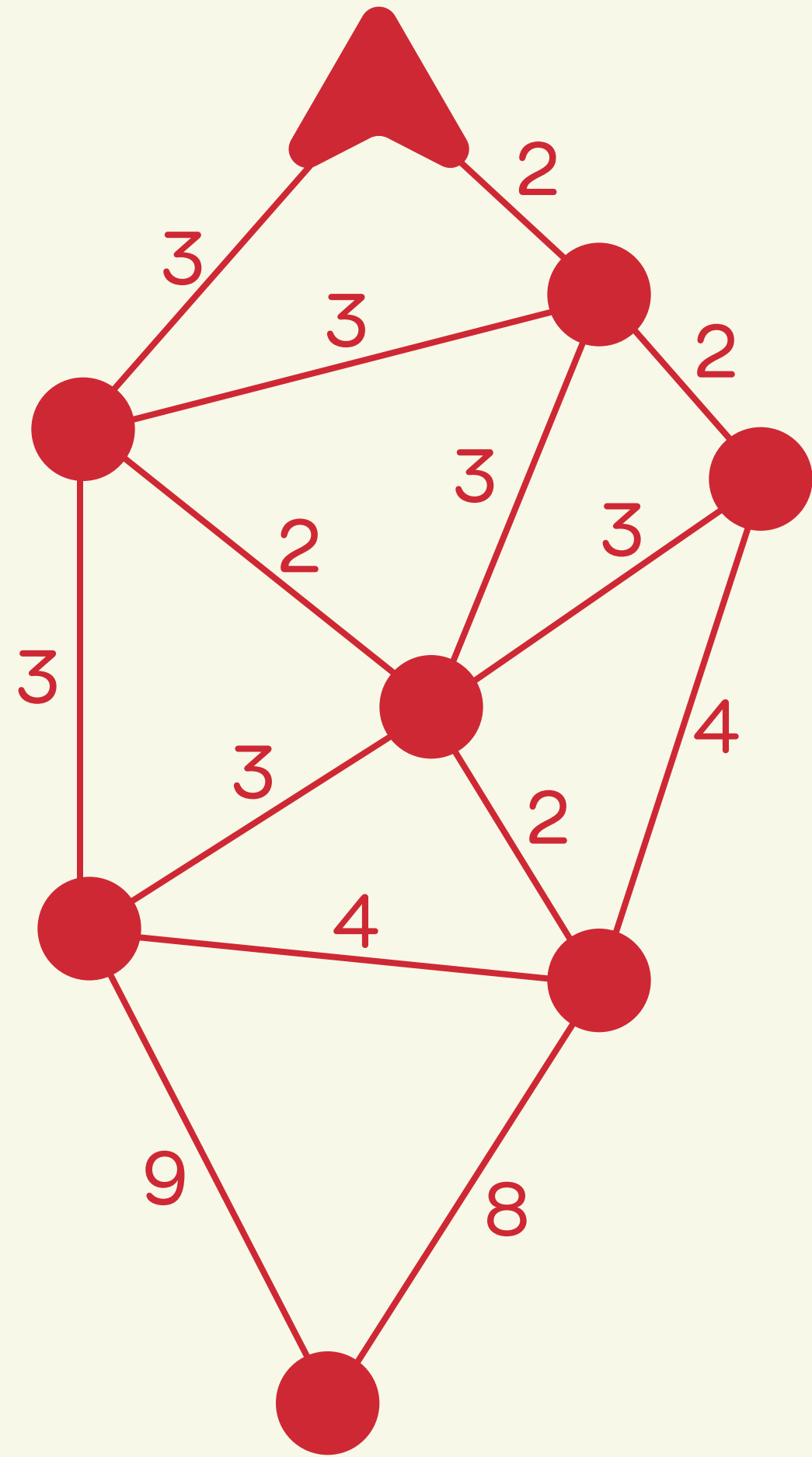
Track Workouts

Visualize Proximity

Notifications

- Smartphone Interface
- Smartphone GPS
- Database

Trainer's GPS as Relative Coordinate System



GROUP 2
23 runners

Fatigue **60%**

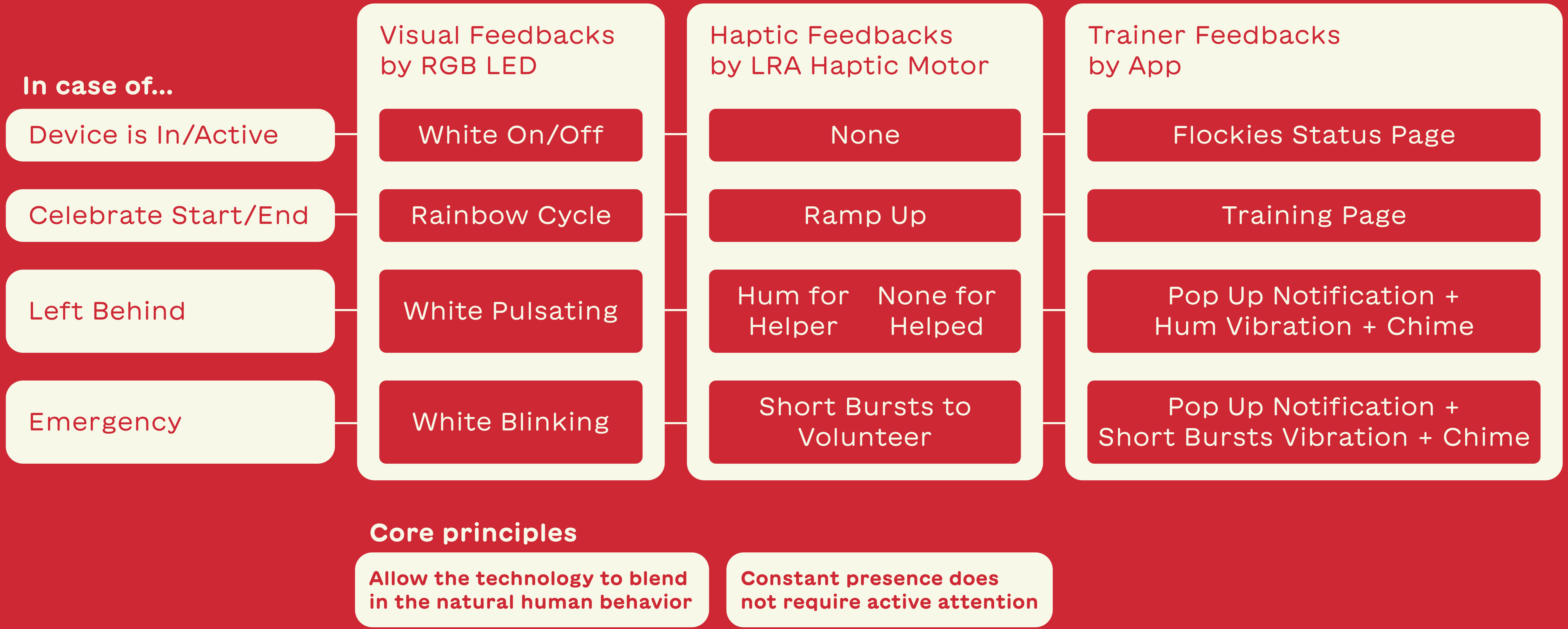
2:58
0.3 km

Exit

NOW
● **Slow Run** 3 MIN
2:42s LEFT

NEXT
● **Sprint** 1 MIN

NEXT
● **Sprint** 1 MIN



Tech

Flocky Smart Band

MicroController - TinyPico

RGB LED

WiFi

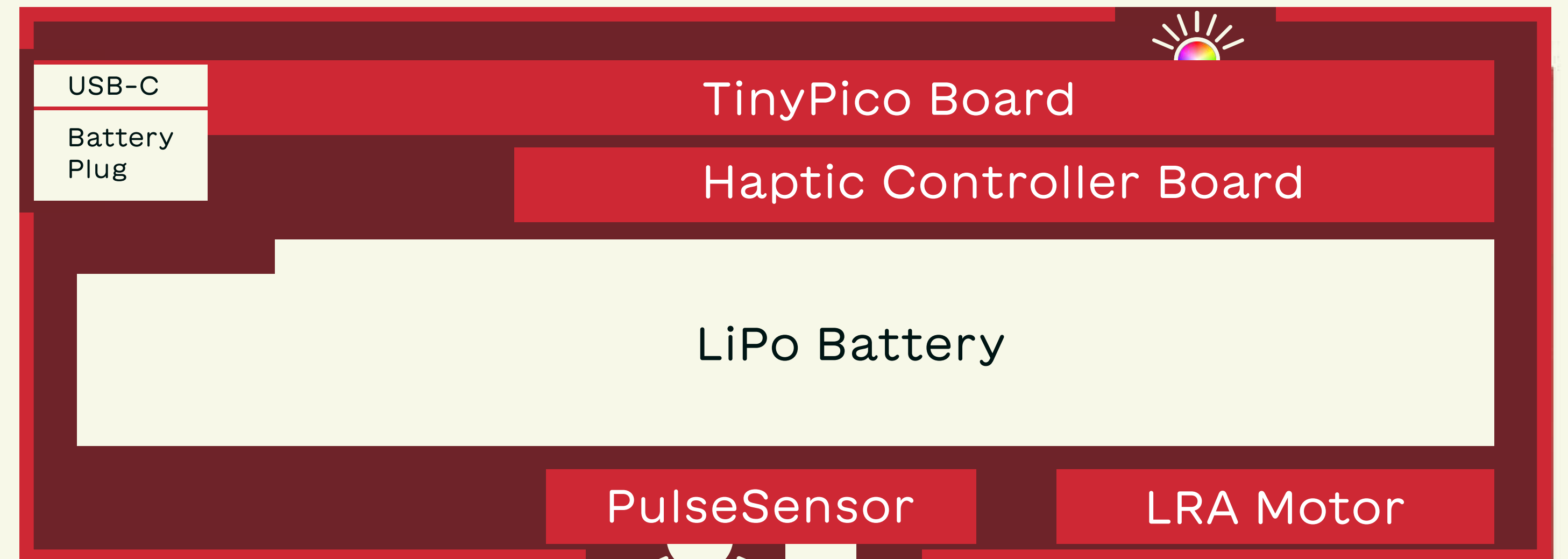
BLE 4.2

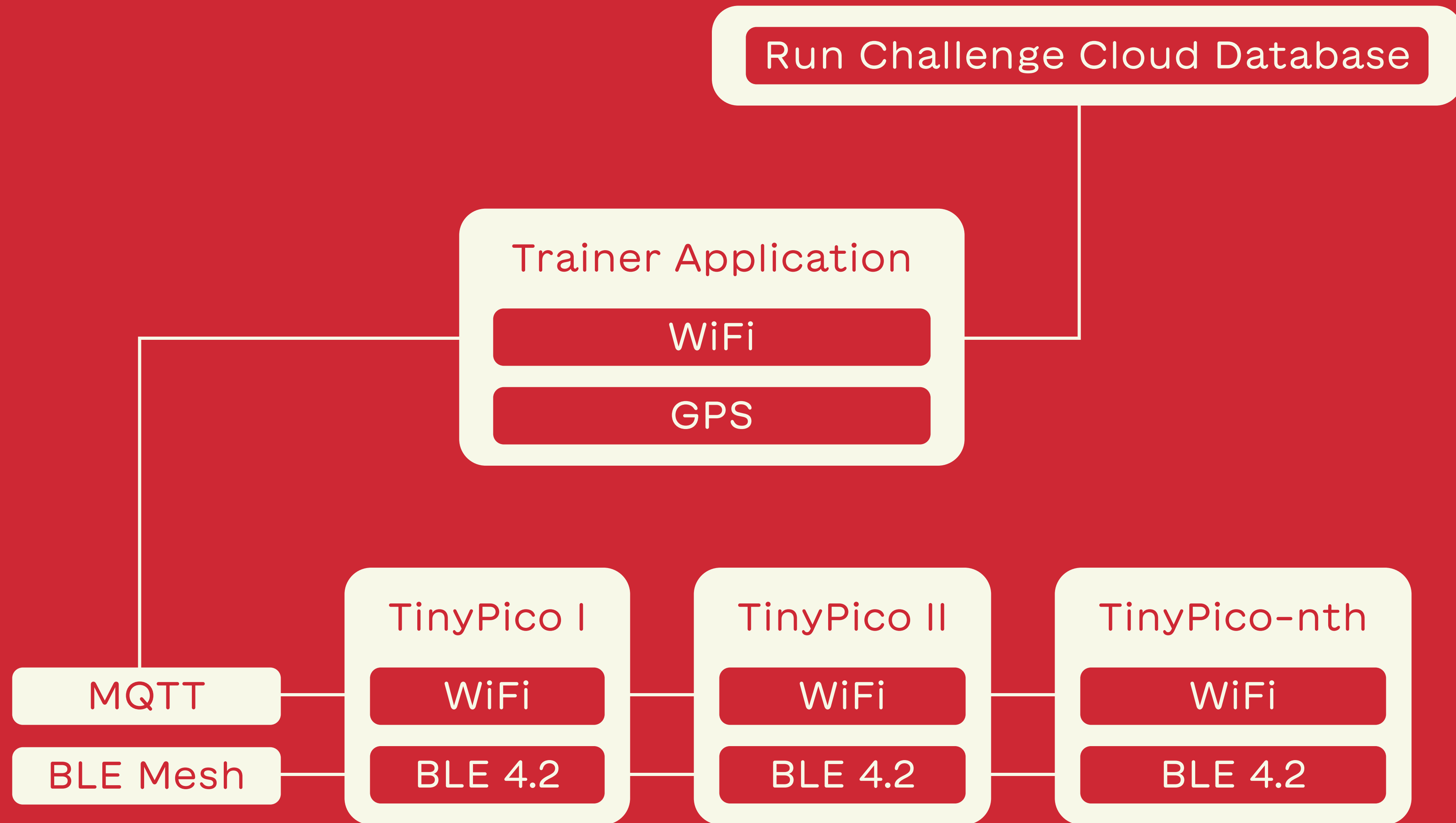
DRV2605L Haptic Motor Controller

LRA Haptic Actuator

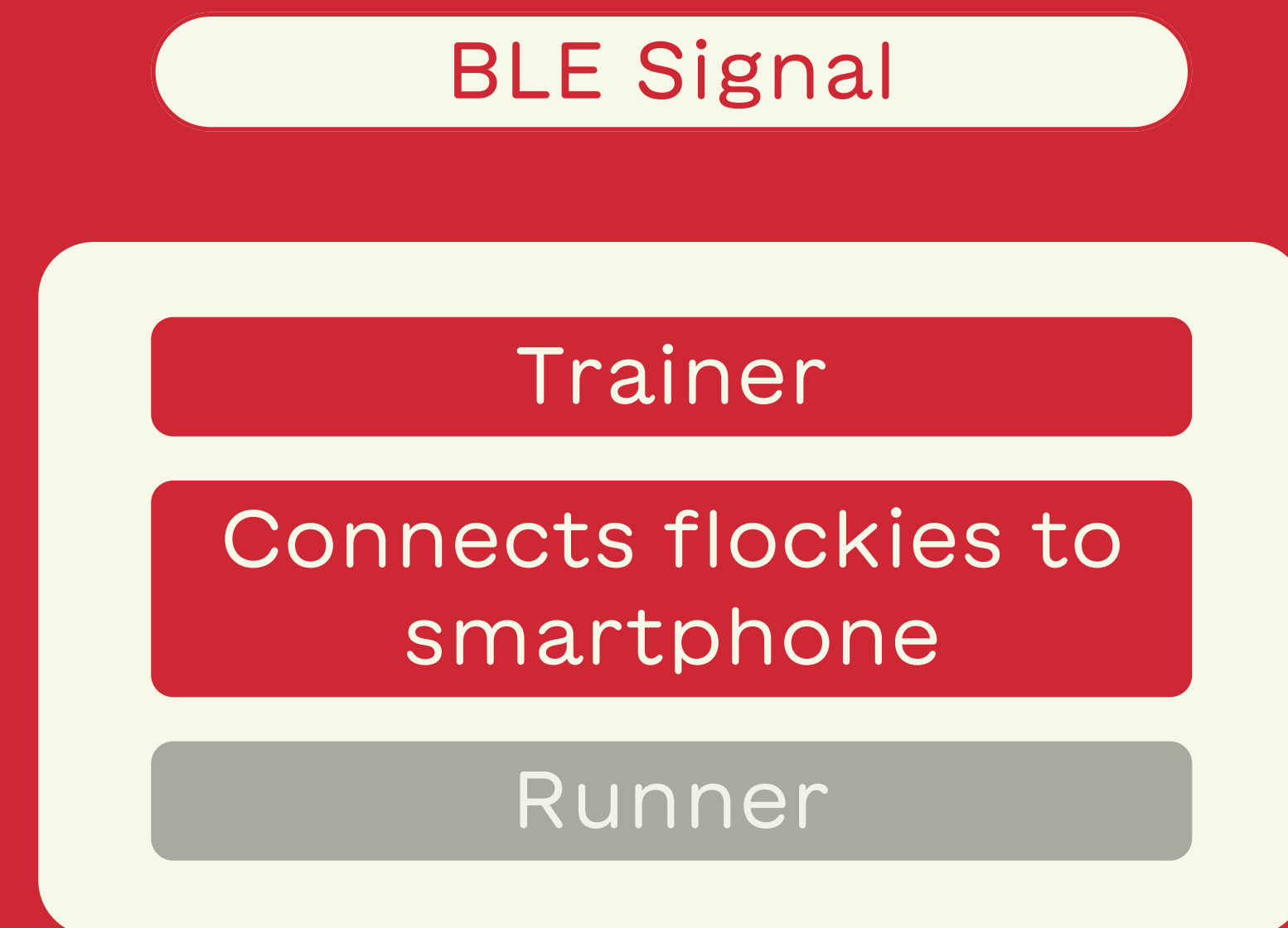
Heart Rate Sensor

LiPo Battery



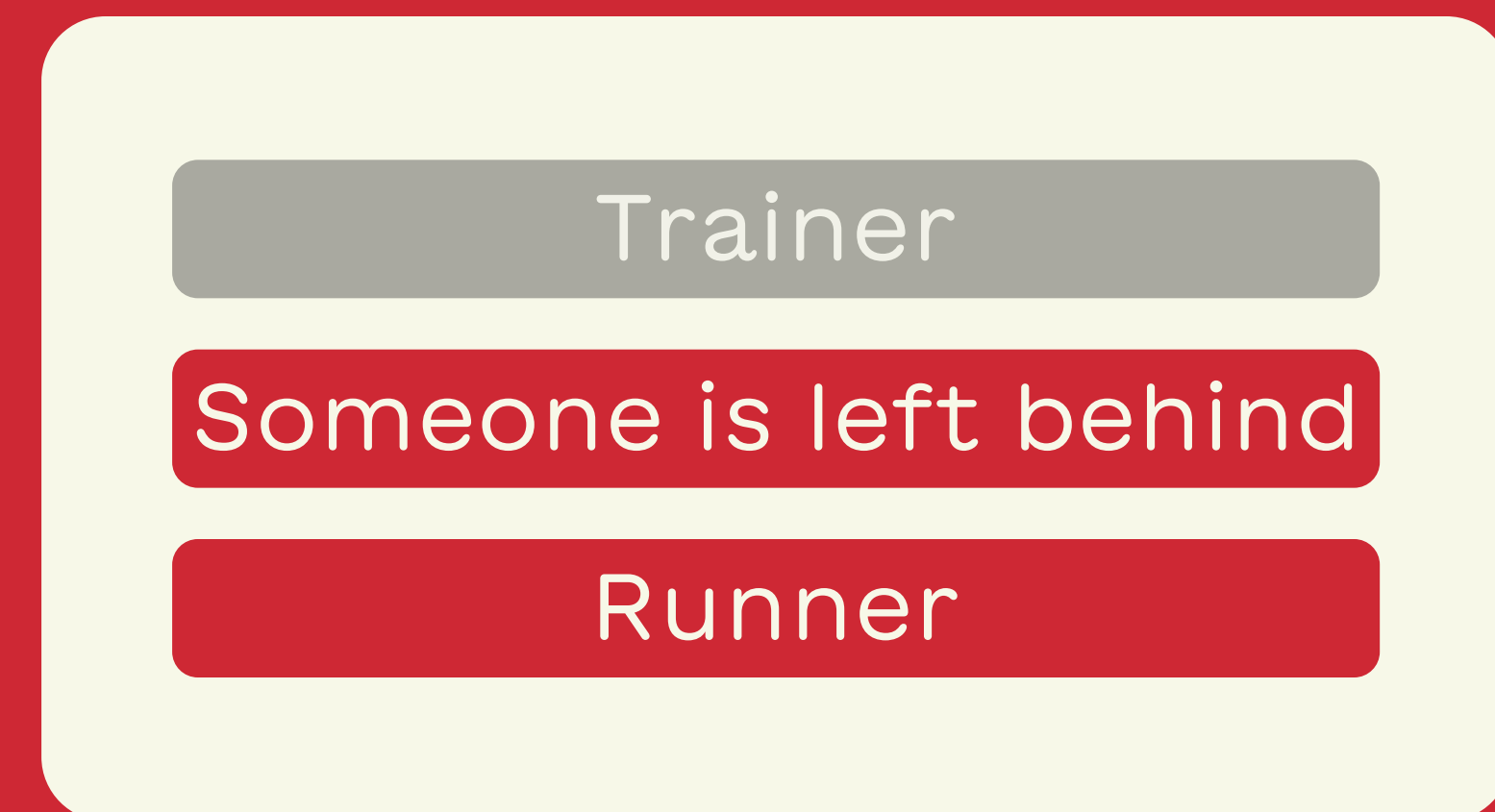


START



Runners' Proximity (BLE)

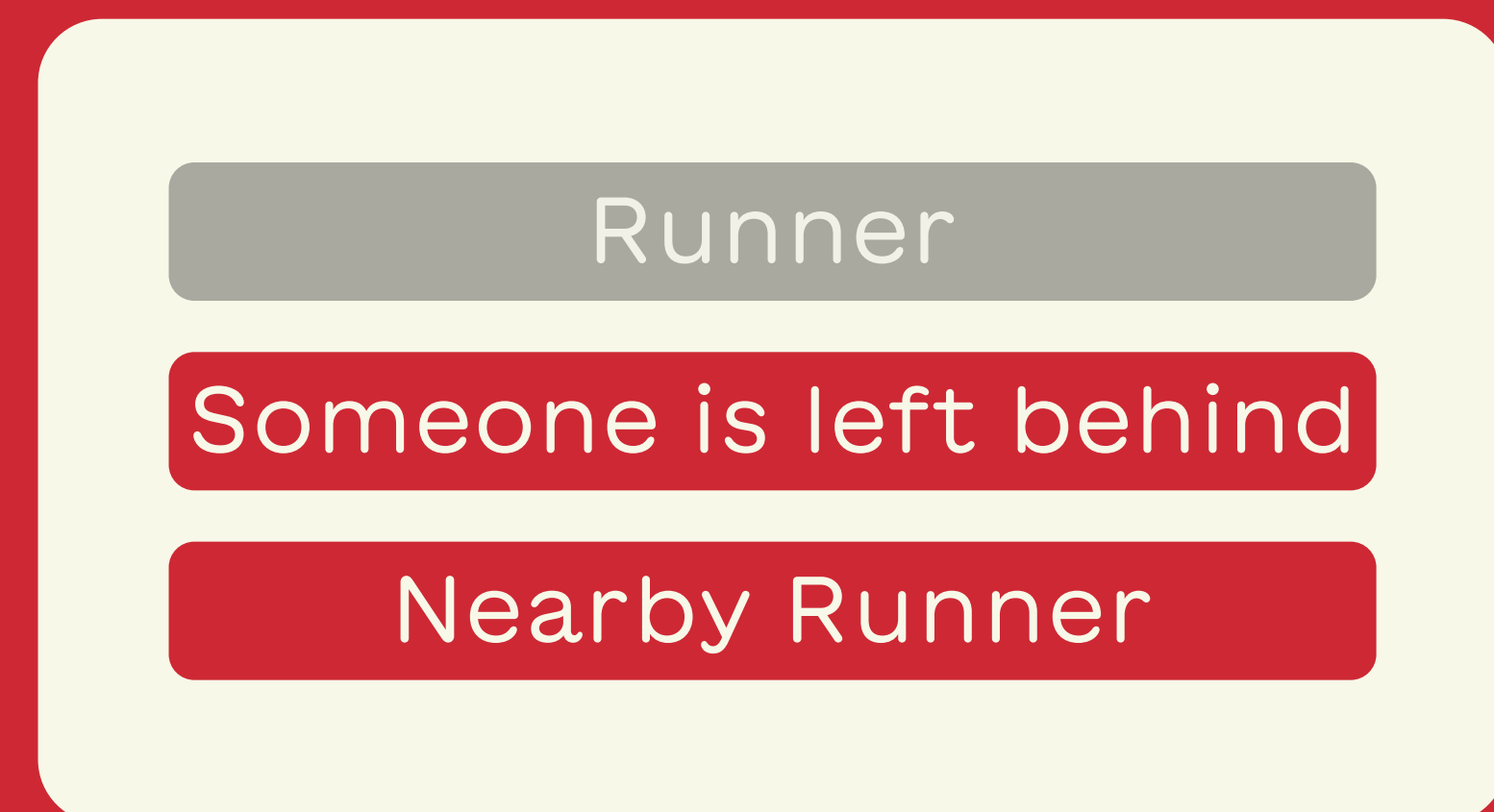
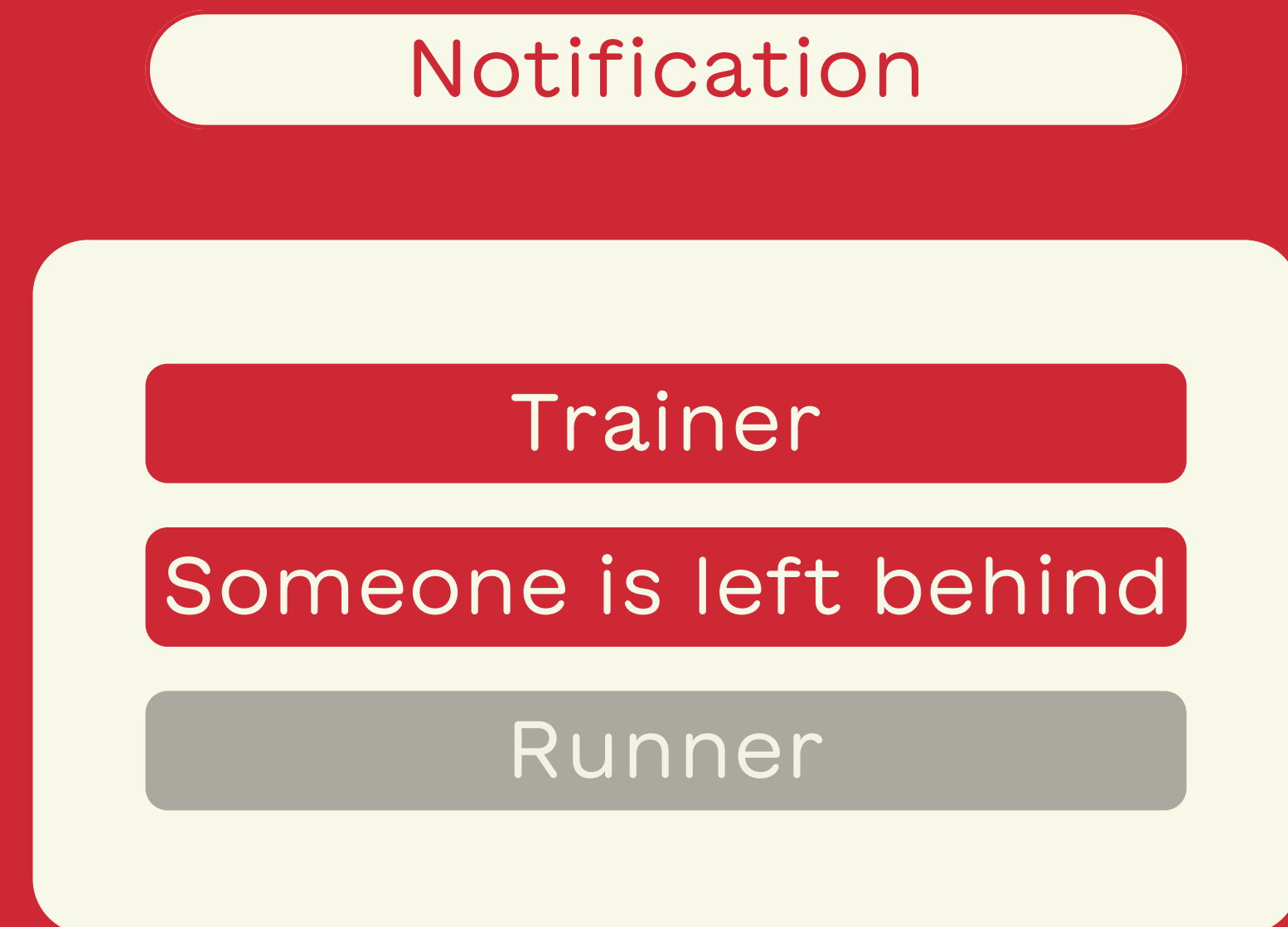
Heart Rate



Runners' Proximity (BLE)

Nearby runners feedback

Heart Rate



Haptic Feedback

END

MVP

1st MVP

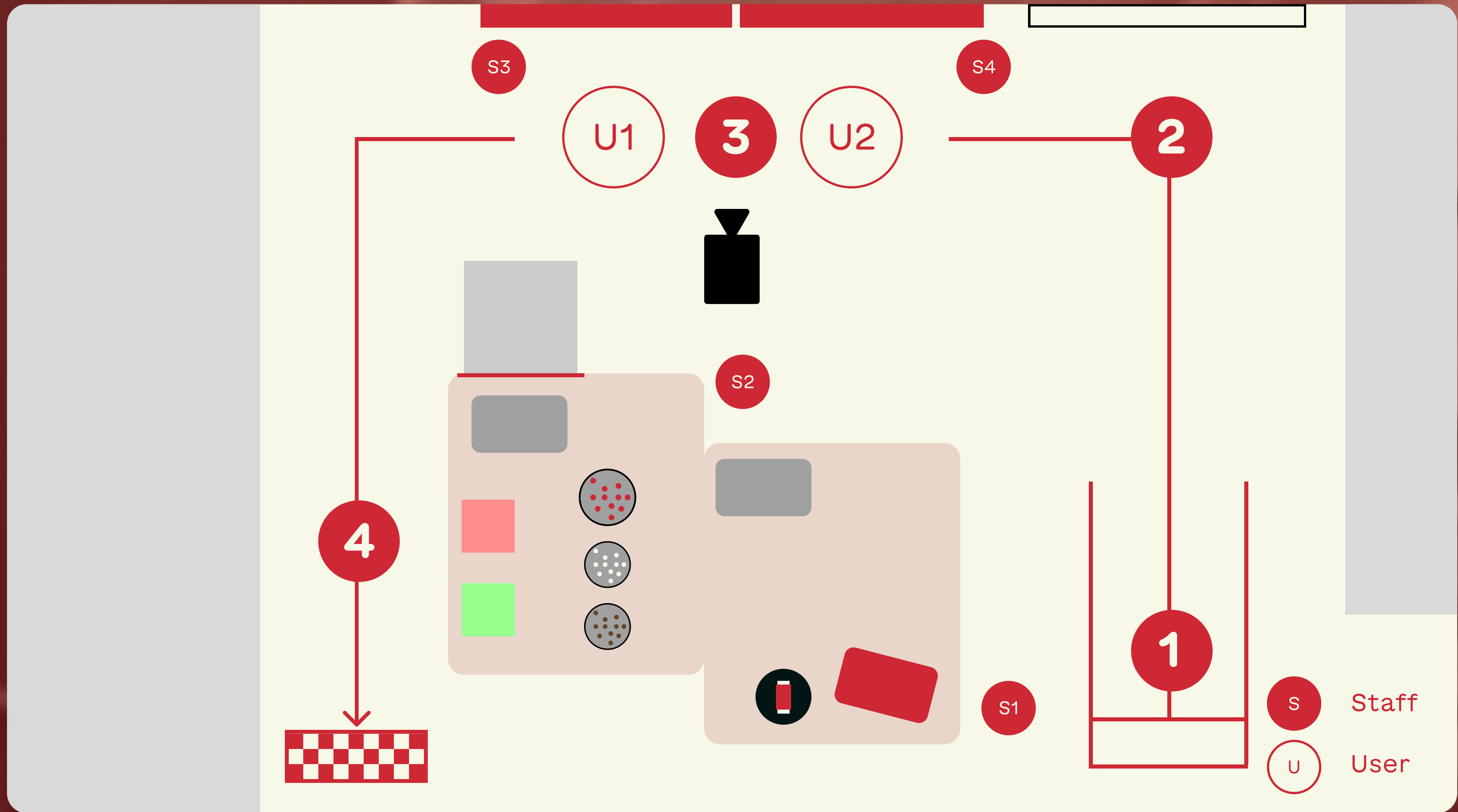
Understand if the idea is needed by testing a first iteration of the concept consisting of:

Haptic Feedback (LRA)

Visual Feedback LED

Tracking Proximity

PROJECT MAPPING



Falling Behind

You are the one falling behind,
you are tired and can't keep up.

But don't worry, when you'll be too far away from the group, Flocky will notify the trainer and the closest person to you.

The Helper

Look at the person to your left.
To them, you are the nearest person in the group.
But you're focused on your run.
Trying to keep up with the leader.

Flocky might notify you that someone nearby needs your help, what are you gonna do?





37 feedbacks

What I liked

Very cool! And can work for different situations!	Feasible. Useful also for different purposes. Effectively presented.	Grazie ragazzi per questa emozionante esperienza... Vi auguro di tagliare molti traguardi, vi aspetto al PlayMore! Viva RunChallenge!	Good community feel.	<ul style="list-style-type: none">• Very clear demo• Nice physical feedback
Simple & effective!	Great for the runners, nothing changes for them	È bello non sentirsi lasciati indietro 	Nice font  Interesting way to test the experience!	Really cool, I like the feeling of the bracelet and I like how the object brings people together
Love, the haptic feedback, the animations, the simplicity of the experience	Real need + potentiality for ethic first	Interessante, considerare altre interazioni per altre attività fisiche (Palestra?)	Good way to create the feeling of community when running in larger groups	Yeah! Siete dei fiki Interessante, non ho più paura di correre
Nice idea, simple but effective! I liked the fact that the level of interaction is low, makes it simpler.	Vibration makes sense!	I love the concept!	Very unique and inclusive perspective	Continue così 
Molto coinvolgente!	I liked the idea, indeed I peak under pressure when follow a group to run	Nice idea, simple but effective!	It's really REALLY NICE IDEA <ul style="list-style-type: none">• Helpful• Not Intrusive• Really answering to the status quo SO WELL DONE 	The feedback is clear, the concept is simple, I like it. The solution is suitable for doing sports 
Love the idea! Very clear level of information given, not too much not too little	Mi piace il fatto che sia molto semplice ma risponde ad un bisogno reale che accomune tante persone.	Semplice, funzionale, molto utile. Anche la simulazione è molto chiara. Bravi!	Simple, useful and well-organized! BTW good branding! Liked the way you display the project! :)	It works!
<ul style="list-style-type: none">• It feels super easy and intuitive• as the one who was left behind It was clear to me the process of how I was being helped• nice as the trainer to have the program made by the main coach• BEL BRANDING 	I would like to include it in my MiBand	Considerate più kit a diversi livelli: <ul style="list-style-type: none">• basic: solo haptic e LED• Advanced: + sound e altro	Great communication of the experience, super fun!	I like how it makes the whole team together. It's really a nice concept
	I like it :) Helpful and useful			
	Simple and on point, you can use it other contexts :)			

Solution is simple and effective

Tech has great potential in many other cases

Demo is fun and immersive

What can be improved

Could Think of Integration in other Wearable Devices
-Pillan

Think of a way to differentiate the responsibility of help between Runners and Volunteers
-Davide

- Sarebbe stato utile includere anche l'app nella simulazione (Ma i know, non si può fare tutto) Good job!
- Inoltre, forse sarebbe utile sapere quale persona si è persa (per me che devo ritrovarli!)

-Davide

Maybe add also auditory feedback from Last One to make it easier to find

Maybe the feedback of the person being left behind in terms of light is not so immediate

Create an Haptic Feedback language -> Different Vibrations for different feedback

Maybe some sort of sound feedback could be nice. I feel that the vibration could be easily ignored.

Maybe you could add some features telling you where your friend is

Ci sono tante app che fanno tracking per le attività sportive, forse si può pensare a qualcosa di diverso.

Maybe the product should be in another shape, because many run with a watch already. And then there is no space for a wristband

Maybe the interaction for the trainer could be improved, using the phone during the run is not ideal

Have different feedbacks for people that relieve that ask to wait and the people left behind. Add a feedback for the person that is left behind when they are left behind.

Maybe make it a sweatband, as you might use on your hand normally

For a project like this is really important to choose the right materials, correct proportions between comfort and price

Could work, make real feeling of the partner interaction. Add more interface, make it more fun.

Add some features for the last person in order to relax them

💡 What if you had 2 colors in the device? White and Green? When the trainer is coming towards you, the light can turn green. Just vibration is a bit confusing

Sometimes I don't like slowing down? But it's also fun to slow down

Consider if only the trainer should get the warning when someone is falling behind, because maybe not everyone is capable of helping

Did not know there was the LED for the final feedback, nor it's significance

Bell'idea e ben pensato il sistema di vibrazioni! -> Però da rivedere cosa significano i numeri di vibrazioni -> Poco chiaro

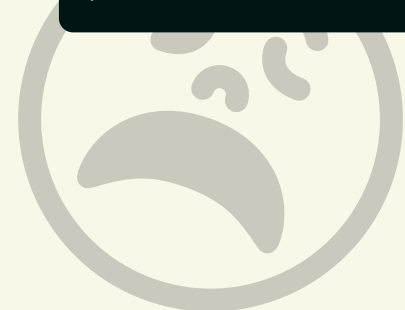
Maybe it is useful to identify who was left behind: eg. bracelet 1 -> Gianluca

If I don't feel good? If I want to play off (?) the feedback?

Add more feedback, a sound for example. Different sounds for the emergency and for the ending of the session

On the app before starting you match numbers to people

Magari aggiungere il video poiché, non si capisce troppo chi rimane indietro, magari aggiungendo più distanza.



Add "Volunteer" category to better distribute responsibility

Explain better the logic behind haptic and visual feedbacks

Many people expected to also see the Trainer's POV during the demo

Next Steps

Add a third category of users with different feedback: the volunteers

Add auditory feedback in case of emergency

Implement the HR Sensor

Create clear language and logic for haptics feedback

Test in a real environment

Expand the application features with an high-fidelity prototype

Field Trips



Retirement Homes



Pedibus





BLOEKY
Never Left Behind