

What is it?



What do I decide?

Autonomy is...

the freedom to make your own choices without being strongly influenced by others.

Autonomy

Impact

How can biowearables negatively impact people?

Issues

A biowearable device can monitor what you eat. How could this negatively influence learning how to eat well as your body's needs change over time?

A biowearable device tells you how well you slept. How might this influence your ability to learn about your changing sleep needs as a teen?

Examples

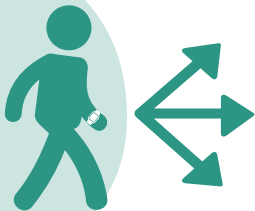
When you wake up your sleep app says you didn't have a restful sleep but you feel great. Do you get up or sleep in?

An hour after eating candy, a stick on skin tattoo monitoring blood sugar levels tells you that you need to eat more. How does this influence what and when you eat next?

Autonomy

Reflection

How could long-term use of my biowearable impact me?



How could I design a device so that it allows me to set, modify and celebrate my own goals as they change over time?

Autonomy

Design Decisions



Data/Input

How does the breath data I choose support me to decide for myself what my goals are?



Display/Output

Does my light or pinwheel design give me feedback that I can use to **see if I'm meeting my own goals about my breathing?**



I/O Mapping

How does the way I map my breath data to light or pinwheel movements **support me to make decisions about how I breathe?**

Autonomy

What is it?



How am I made?

Personhood is...

how your body and brain are made, and how they make you you.

Personhood

Impact

How can biowearables negatively impact people?

Issues

A biowearable device could change the way your brain processes emotions, changing your personality over time.

Using a biowearable device to improve your attention could change how your brain works, which might negatively impact your creativity or other ways you think.

Examples

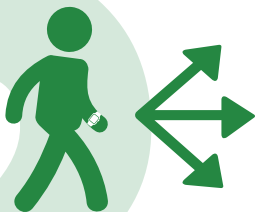
A mood tracking app may try to help you avoid negative emotions, reducing your ability to manage your feelings over time.

A smart watch that beeps whenever your stress level is high may cause you to be stressed whenever you hear similar beeping sounds.

Personhood

Reflection

How could long-term use of my biowearable impact me?



If I use this kind of device over time, in what ways might it **change me as my brain and body grow?**

Personhood

Design Decisions



Data/Input

How might the breath data I choose **impact how I breathe over time?**



Display/Output

Does my light or pinwheel design give me feedback that might **change how I breathe in negative ways?**



I/O Mapping

What might my choice of how I map my breath data to light or pinwheel movements **change in me over time?**

Personhood

What is it?



Who am I?

Identity is...

about who you think you are.

It includes how you think and feel about yourself including self-esteem, appearance, values, and who you want to become as you get older.

Identity

Impact

How can biowearables negatively impact people?

Issues

A biowearable device may tell that you have daily high stress. How might this negatively impact how you come to think about yourself as you grow up?

A biowearable device may be designed to monitor your physical activity to make you slimmer and fitter. How might this negatively impact how you feel about yourself during a growth spurt?

Examples

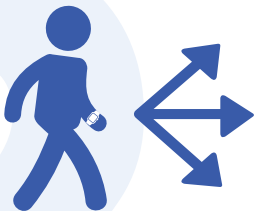
During Covid-19 your stress tracker tells you that your stress level is HIGH. Do you start to think of yourself as someone who is stressed out?

A smart watch alerts you that your exercise levels are low this week. Does this make you feel lazy or motivated?

Identity

Reflection

How could long-term use of my biowearable impact me?



If I used this kind of device over time how could it **support me to develop into the kind of person I want to be?**

Identity

Design Decisions



Data/Input

How does the breath data I choose **relate to things about myself that are important to me?**



Display/Output

Does my light or pinwheel design **give me feedback about my breathing that has a positive impact on me?**



I/O Mapping

What does my choice of how I map my breath data to light or pinwheel movements **tell me about myself?**

Identity

What is it?



What will I do?

Agency is...

the freedom to have control over your actions to impact your world.

Agency

Impact

How can biowearables negatively impact people?

Issues

A biowearable device that tracks your fitness may be inaccurate and over count or miss steps or activities. How does this impact you learning to take control over your fitness?

A biowearable that trains your attention may be inaccurate. How does this impact you as you learn to control your attention?

Examples

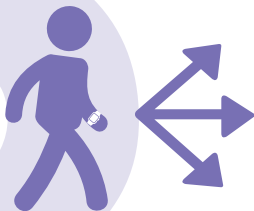
You're trying to get fitter during Covid-19 so you go hiking. Your smart watch tells you to slow your heart rate down. Do you keep going or slow down?

You have a hard time paying attention in class so you start to use a brain-training game. You never win. How do you feel about your sense of control over your brain?

Agency

Reflection

How could long-term use of my biowearable impact me?



If I used this device over time, how might it **help me learn to control my body in ways I want?**

Agency

Design Decisions



Data/Input

How could I have the **option of over-riding my breathing data that is sent to my device?**



Display/Output

Does my feedback design **let me feel in control of my breathing in the ways I want?**



I/O Mapping

Does the way I map my breath data to light or pinwheel movements **help me notice when I change my breathing?**

Agency

What is it?



What information do I believe?

Authority is...

the sources of information that tell you
about yourself.

Authority

Impact

How can biowearables negatively impact people?

Issues

A biowearable device says you have high stress and tells you to calm down. At what times in your life might it be harmful to listen to the device?

A biowearable can help follow a sports training program but there are many things it doesn't know about your body as it changes over time. Following its advice blindly could harm you.

Examples

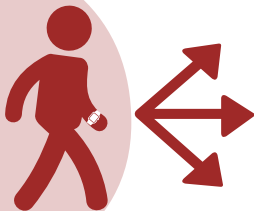
Your stress tracking necklace alerts you that you have high stress, which makes you even more stressed, right before an exam!

Following your smart watch's training program without checking in about how you feel could lead to burn-out or harm your body as it grows quickly.

Authority

Reflection

How could long-term use of my biowearable impact me?



How could I design a device so that it adds to what I already know about myself rather than acting like it knows me better than I know myself?

Authority

Design Decisions



Data/Input

What can the breathing data **tell me** about what I experience inside of me and what I feel?



Display/Output

In what ways could the display give me information that **supports my own** experience of my breathing rather than telling me what to do?



I/O Mapping

Does how I map my breath data to light or pinwheel movements **give me information** that is helpful to meeting my own, changing goals over time?

Authority

What is it?



When am I most myself?

Authenticity is...

about being true to yourself in each moment.

Authenticity

Impact

How can biowearables negatively impact people?

Issues

A biowearable device sends you notifications about your status and goals. Over time, you might start to check it compulsively.

A biowearable tells you what your mood is. How might this impact learning to pay attention to how you are really feeling?

Examples

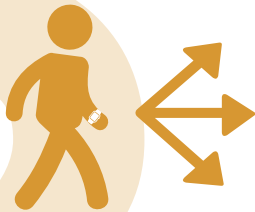
You're in a movie with friends and your fitbit keeps beeping because you've been sitting still too long. How does this impact you and those around you?

A mood sensor ring alerts you of a possible anxiety attack when you're talking to your crush. Can you still act like yourself?

Authenticity

Reflection

How could long-term use of my biowearable impact me?



How could I design a device that supports me to learn about myself without it taking over my attention?

Authenticity

Design Decisions



Data/Input

How does the breathing sensor
impact me as it records my data?



Display/Output

How can I design the lights and
pinwheel spinning so that it **doesn't**
distract me too much?



I/O Mapping

How can I process my breathing data
and map it to display feedback so that I
can **focus on how I am changing**
within myself over time?

Authenticity