

## YOUR CHALLENGE (MADE CLEAR)

To iteratively design, prototype, and test an interactive device ([ex.s](#)).

Your device must:

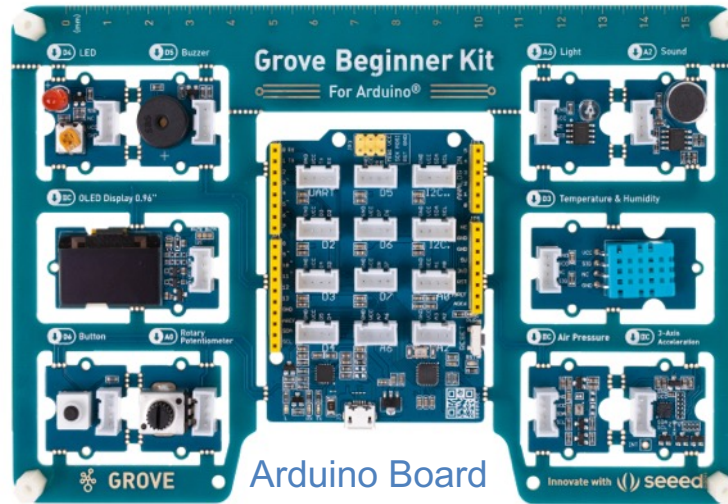
- be a physical thing that you make interactive using the Grove kit.
- change color, light-up, make sound, and/or physically move or transform
- (satisfy any other requirement of the challenge in a given 2730 year).

The **research questions** you will answer by conducting HCD research:

- *Can an interactive device make people more aware of climate change?*
- *Can an interactive device help remediate climate change, even in a very small way?*

MAKING YOUR DESIGN INTERACTIVE

# Grove Beginner for Arduino



Modules

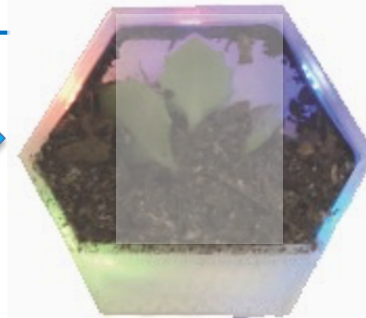
Modules

Arduino Board

YOU NEED 1 INPUT & 1 OUTPUT (MINIMUM).

CO2 Sensor

INPUT

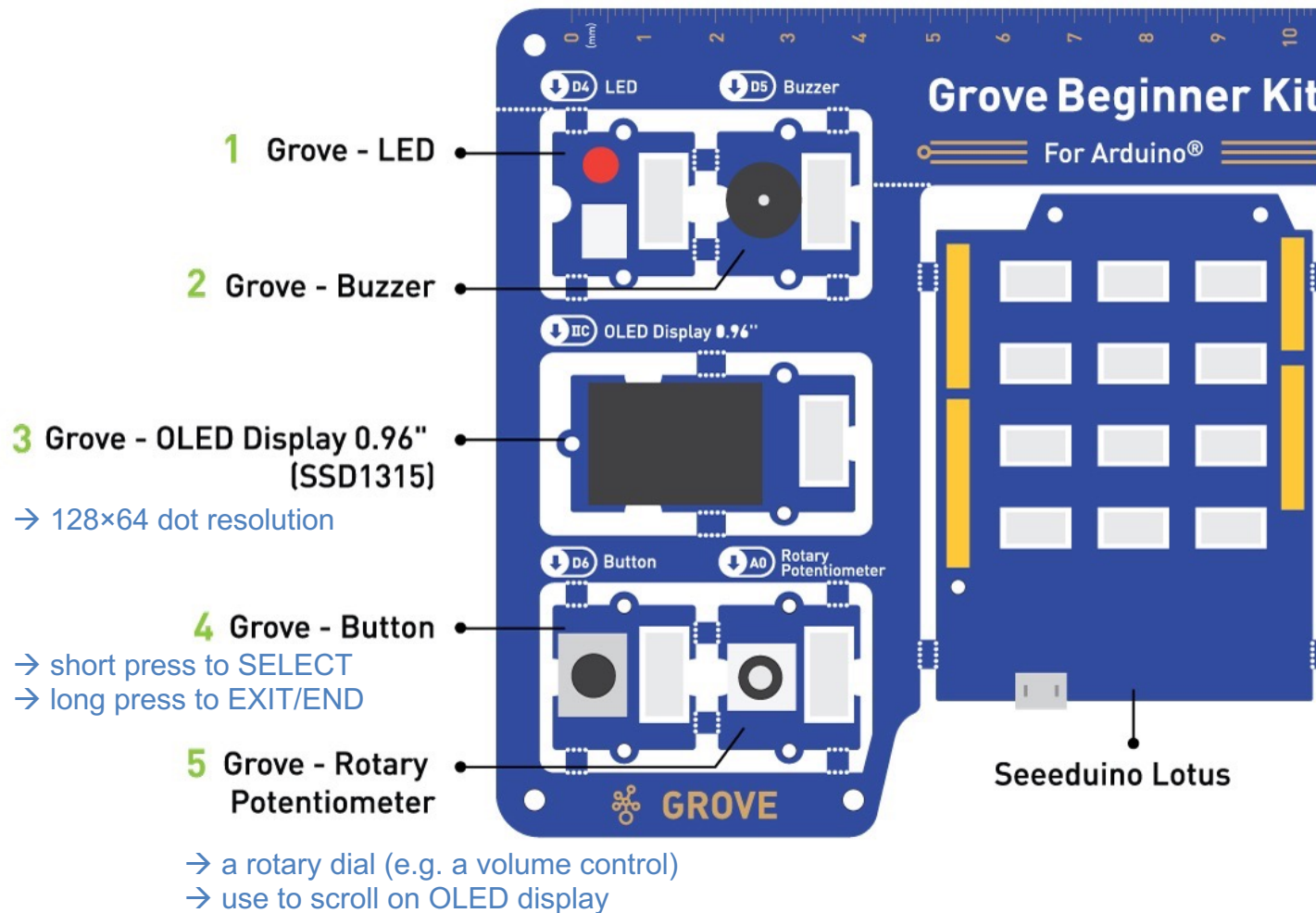


OUTPUT

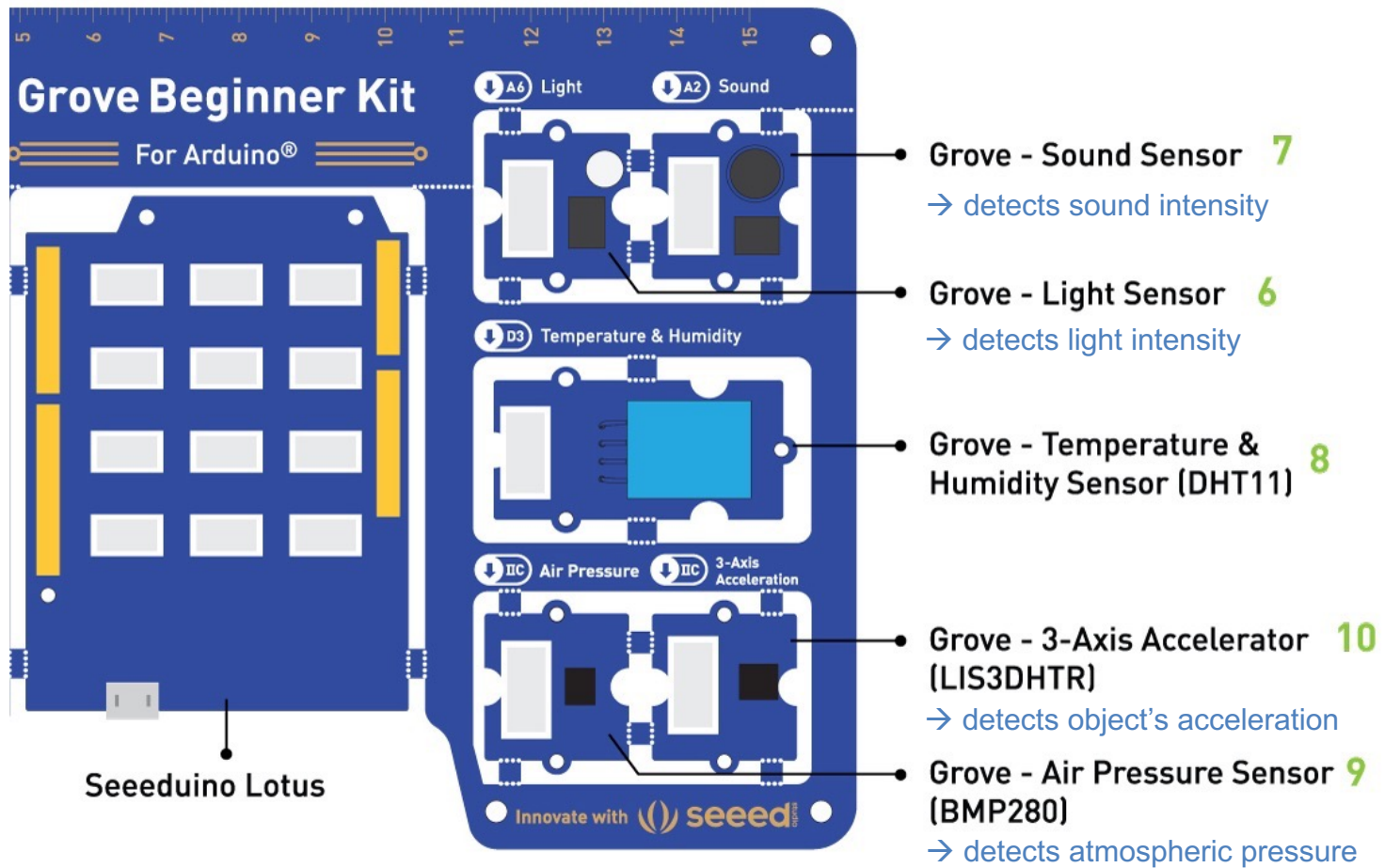
LEDs



# Grove Beginner for Arduino

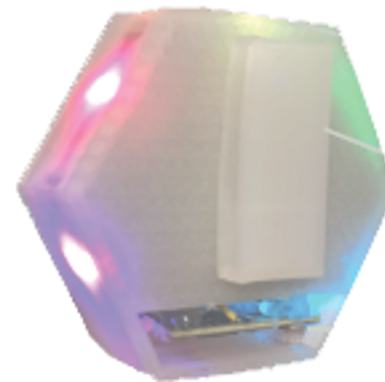
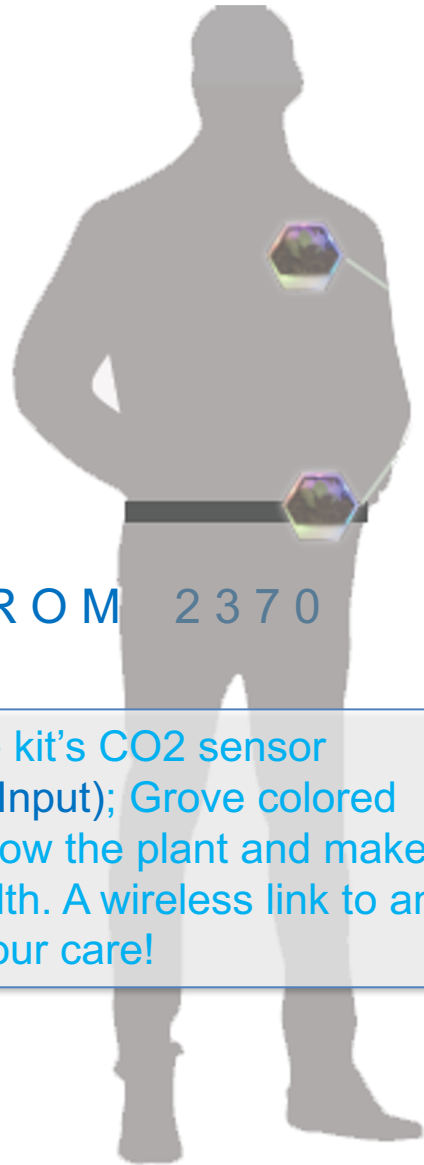


# Grove Beginner for Arduino



## EXAMPLE FROM 2370

*Planti-pak:* The Grove kit's CO2 sensor measures air quality (Input); Grove colored lights (Output) help grow the plant and make us aware of plant health. A wireless link to an app awards point for our care!



Wow...what are you wearing?

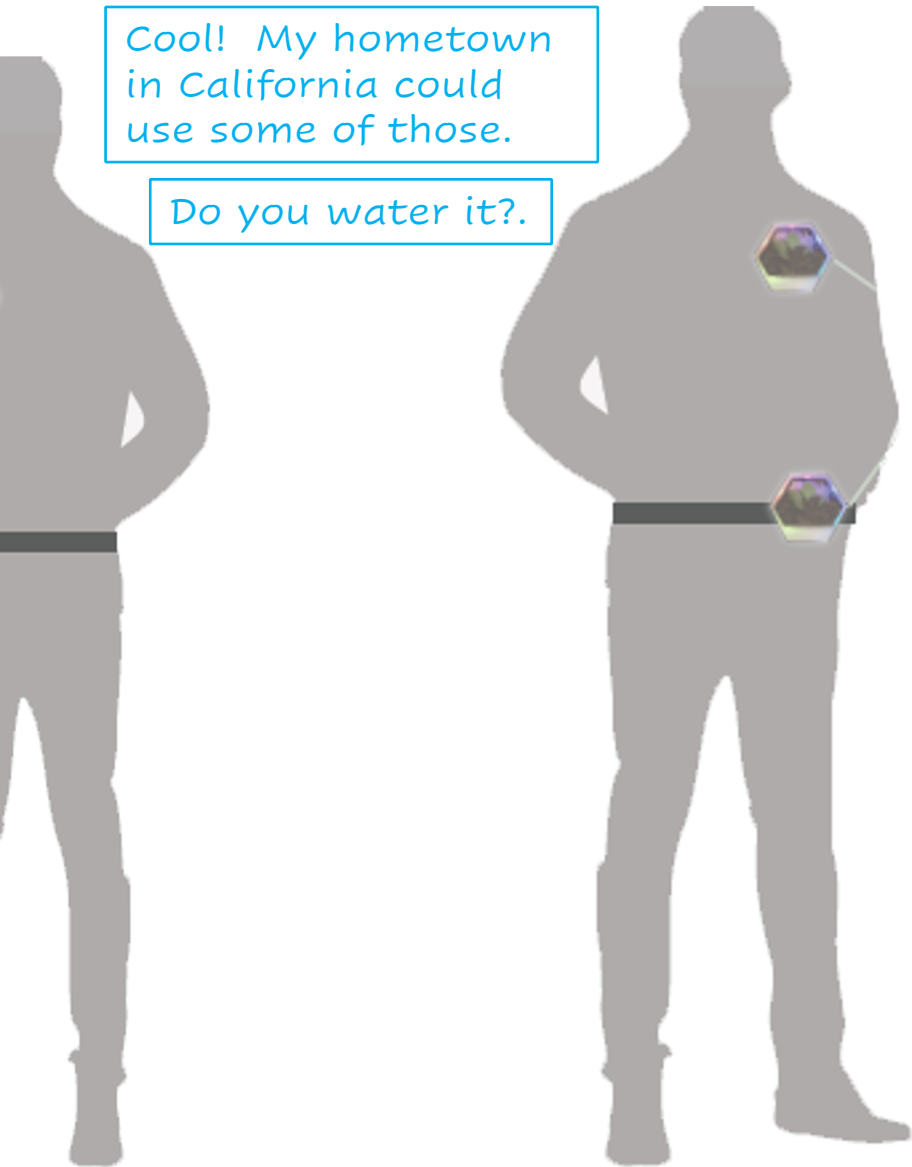


A *Planti-pak*. It measures air quality which causes it to light-up. The lighting helps grow the plant inside it and indicates plant health.



Cool! My hometown  
in California could  
use some of those.

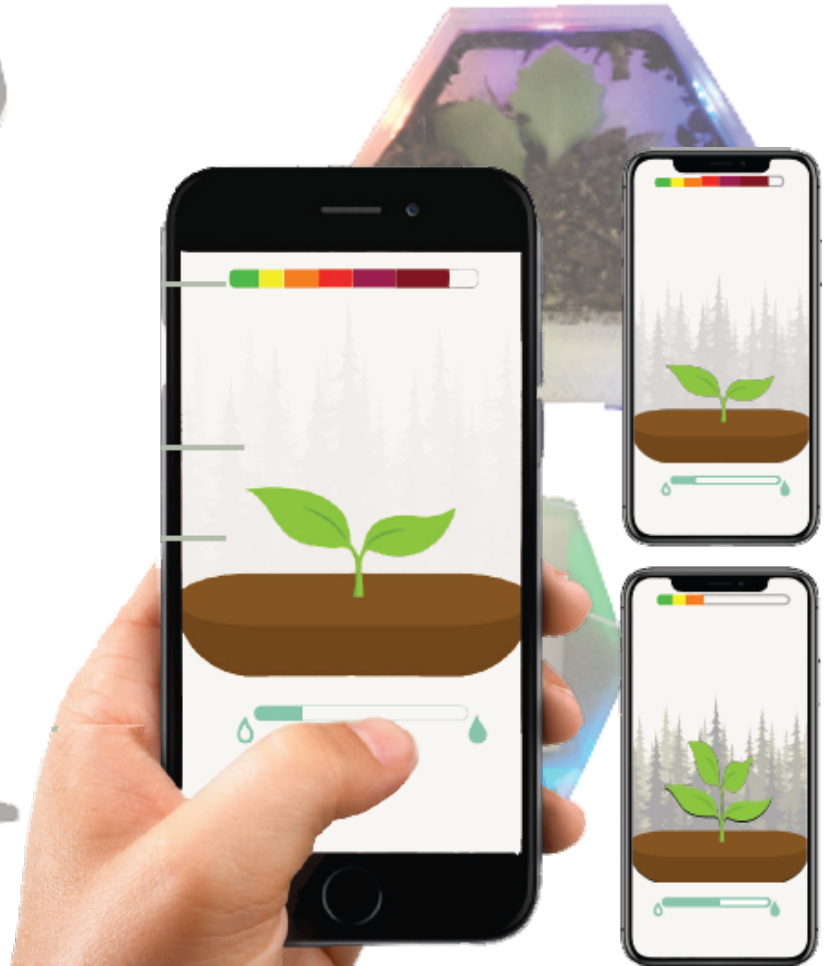
Do you water it?.

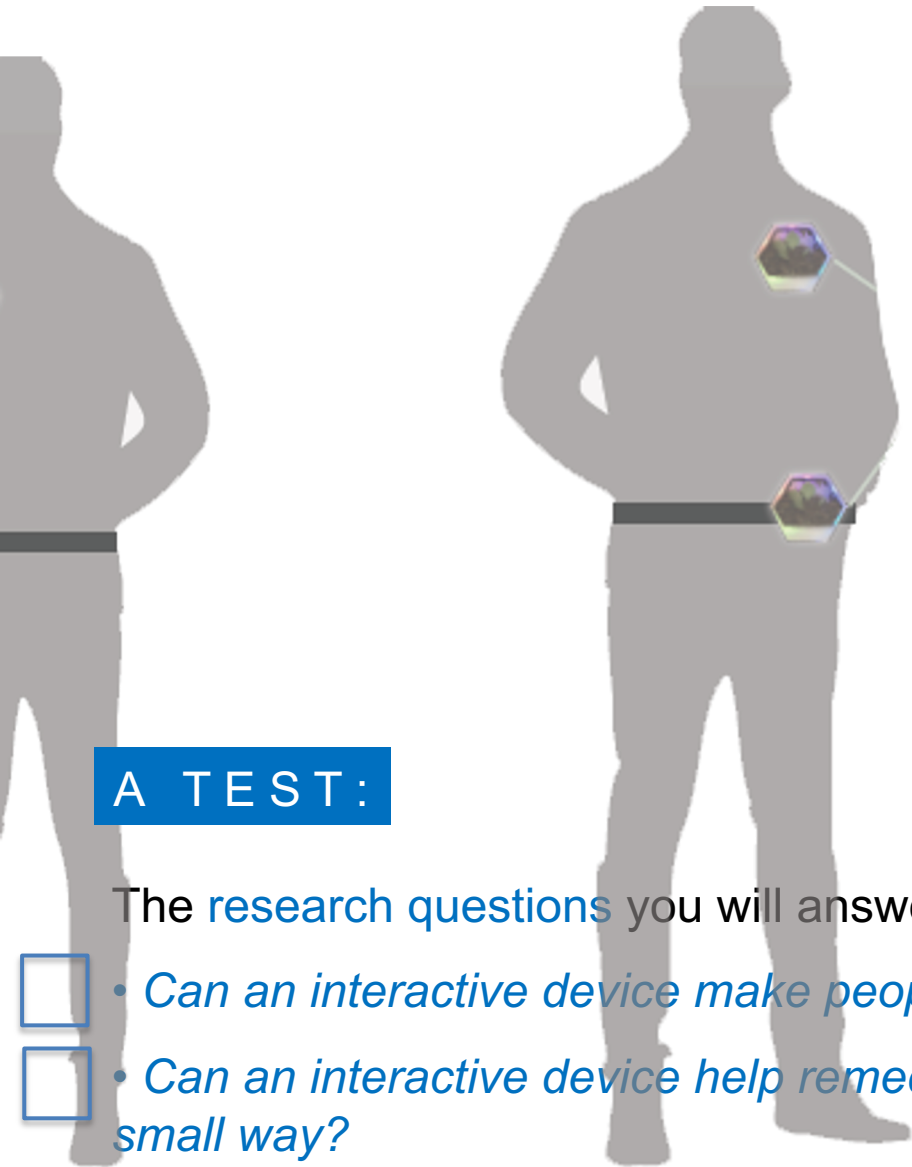




Yeah -- I water it when the lights tell me.

It also comes with a cool app that tells me how well I'm caring for it. You score points and compete with your friends.

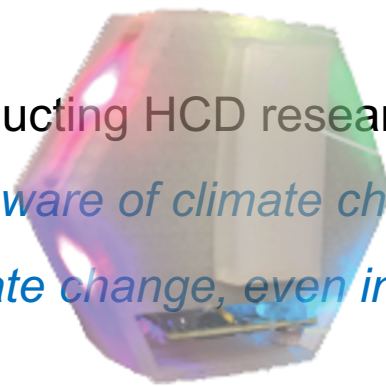


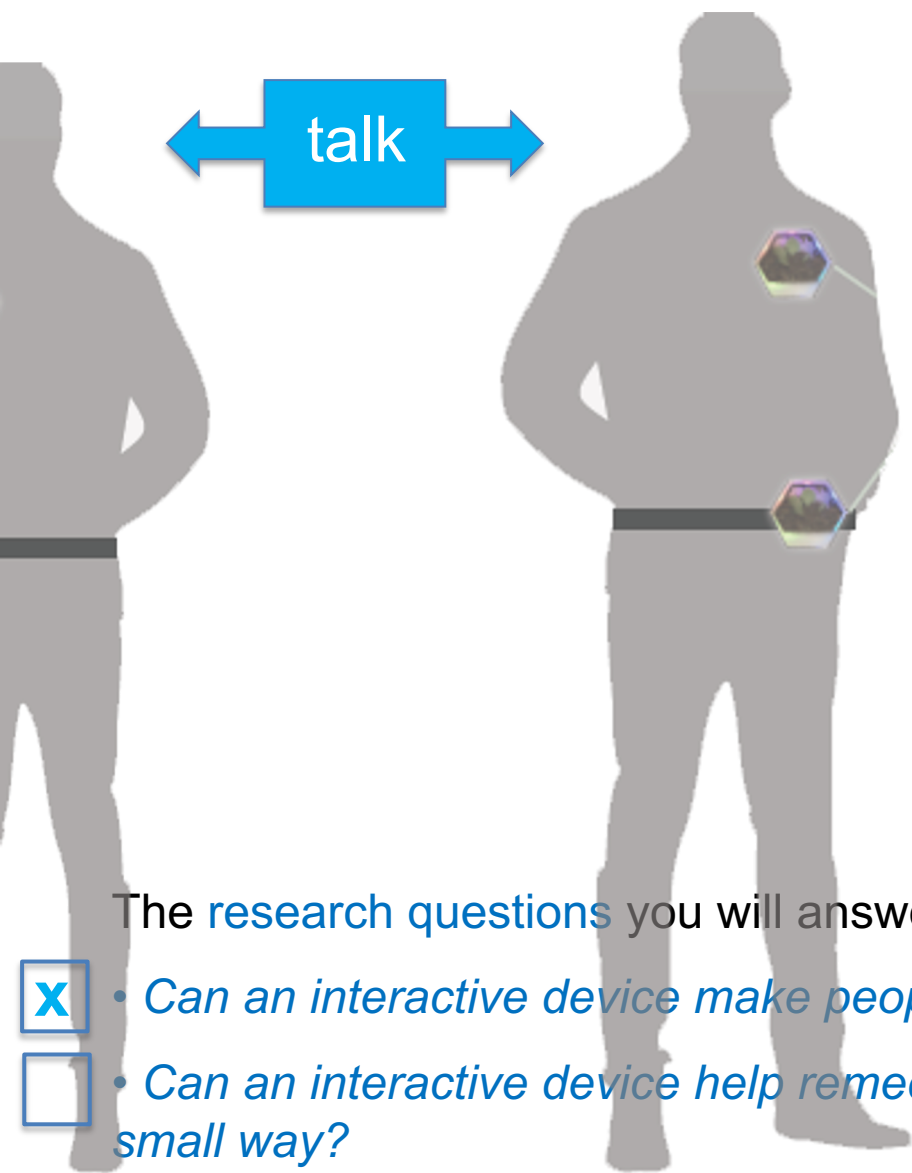


## A TEST:

The **research questions** you will answer by conducting HCD research:

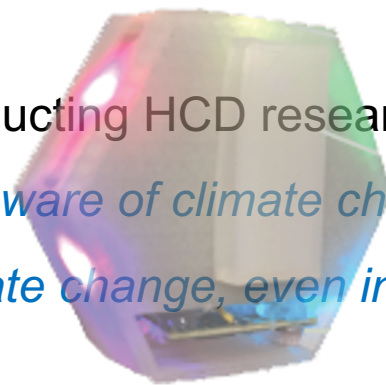
- *Can an interactive device make people more aware of climate change?*
- *Can an interactive device help remediate climate change, even in a very small way?*

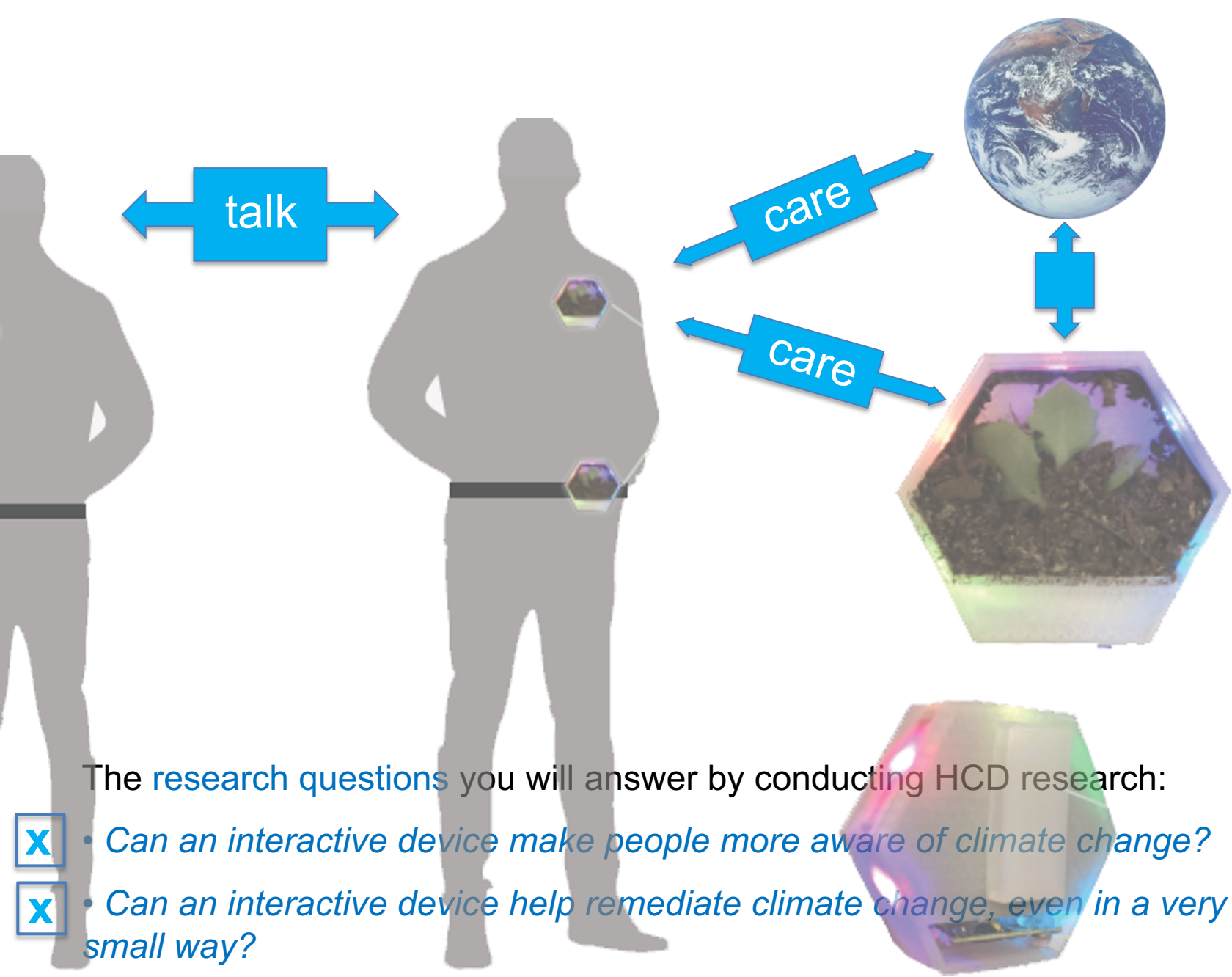




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Do these design proposals meet the requirements of our challenge?

### PROPOSAL ONE:

An apron that has a large screen on it. The screen shows you how well you are using up all your food when you prepare a meal.

- NO: A screen mostly relies on text or images; it doesn't change color, make sound or physically move. And is there enough interaction with others? (Maybe, but only with roommates, guests?)

### PROPOSAL TWO:

A shoulder pad that collects solar energy and charges my phone.

- NO: charging your phone doesn't change color, make sounds or physically move the shoulder pad. And it doesn't help "make people aware of climate change" because charging your phone is something not visible to them, so they wouldn't notice.