ARDUINO Ventrilocat

A guide by
Oliwia Widuto 40325295
Bianka Paculanang 40291271

How many times have you said something you didn’t mean?

Us too.

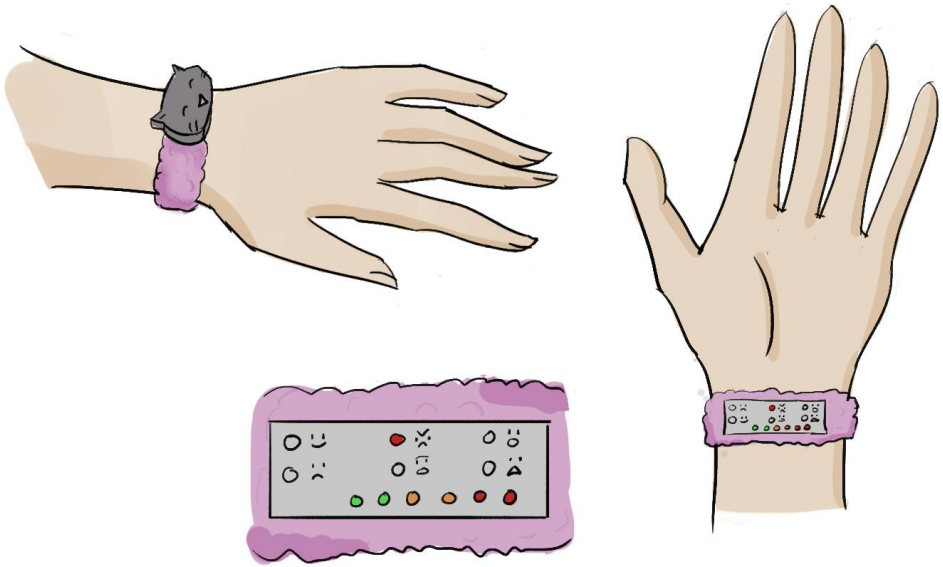
When your feelings get in the way,

let Ventrilocat do the talking.

The VENTRILOCAT is an interactive heart sensor which conveys

6 PRIMAL

EMOTIONS in the most fun way you've seen to date!



Joy

Surprise

Sadness

Anger

Disgust

Fear

Instead of saying too much, let a cute pre-programmed cat do the talking.

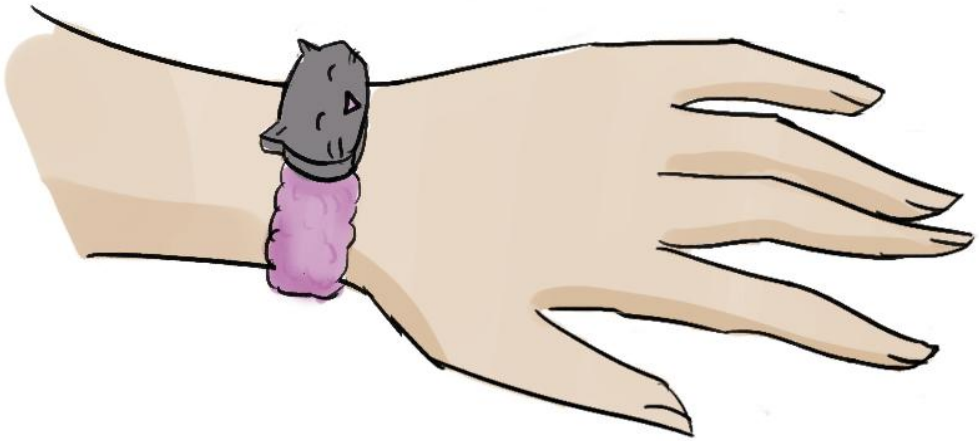
Scary

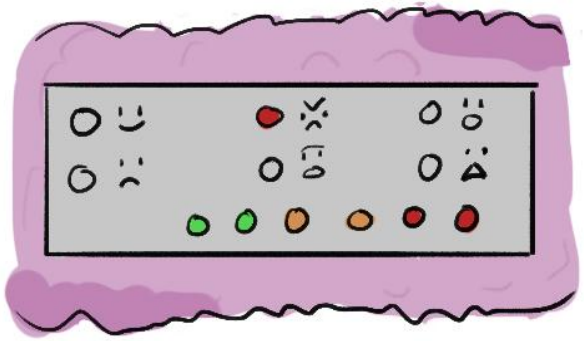
Considerably less

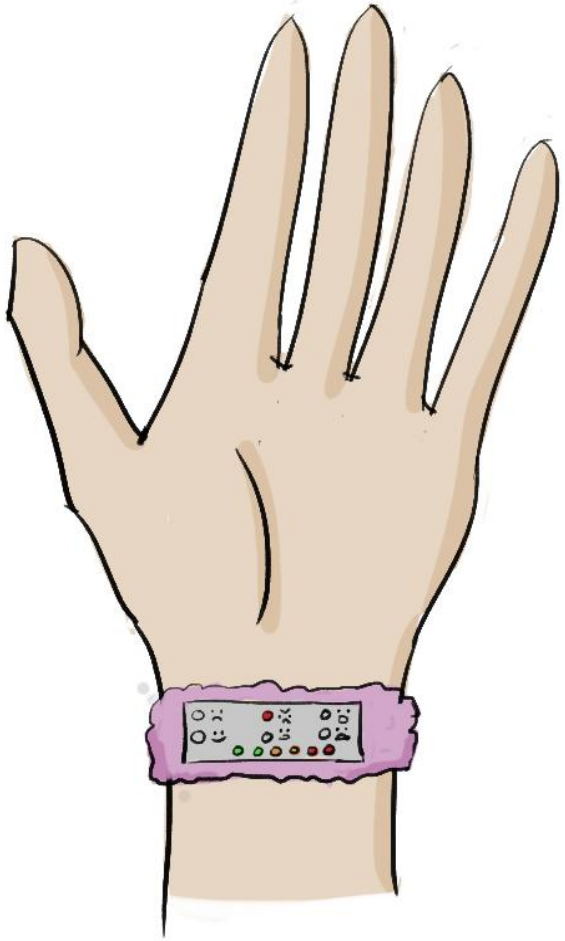
The Design

Interface

The 2 boards will be contained within a felt bracelet, punctured with 6 emotion buttons and LED at the back, and an animal head at the front.

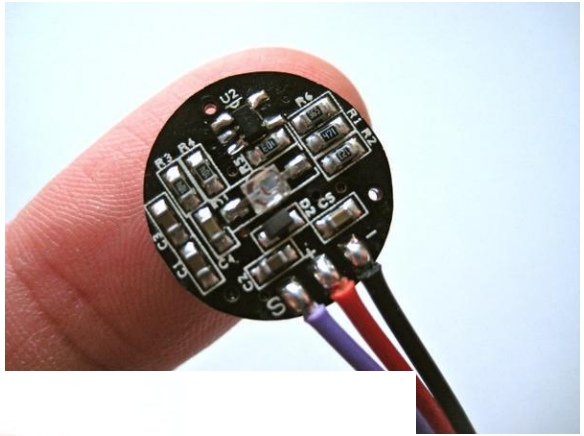


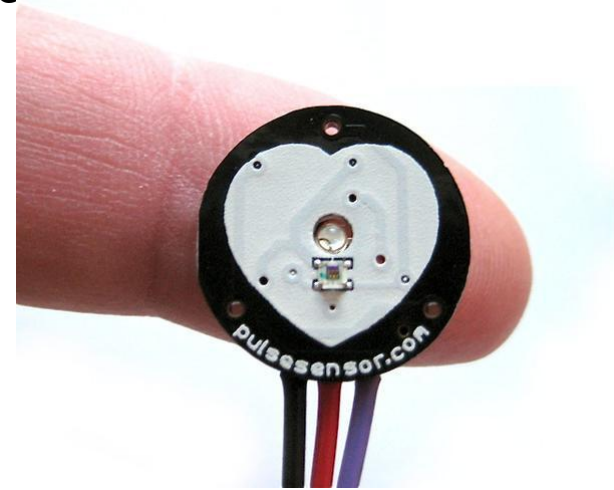


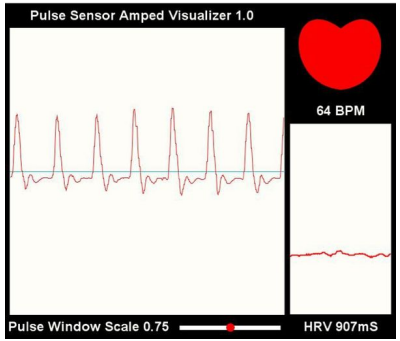


Pulse Sensor

The main concept of our project stems from the Pulse Sensor project. This design monitors and displays a raw pulse sensor signal with the inclusion of an LED that blinks with every heartbeat.







[Click here to view full project]

[Click here to view code]

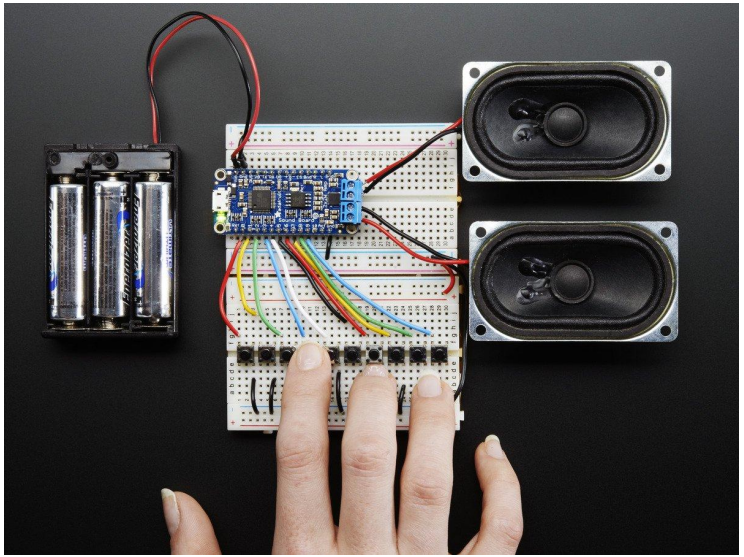
Utilising YOUR heartbeat

So you know your heartbeat. What's next?

- ➔ **LED lights**
  1 of 3 LEDs will light up to show if your heart rate is low, medium or high
- ➔ **Voiceover Emotions**
  React to your heart rate by using 1 of 6 emotions to tell your friends how you feel

Sound Board

In addition to the heart sensor, there is also the inclusion of a soundboard which contains over 30 different phrases at the push of 1 of 6 buttons which convey primal emotions in a lighthearted way.



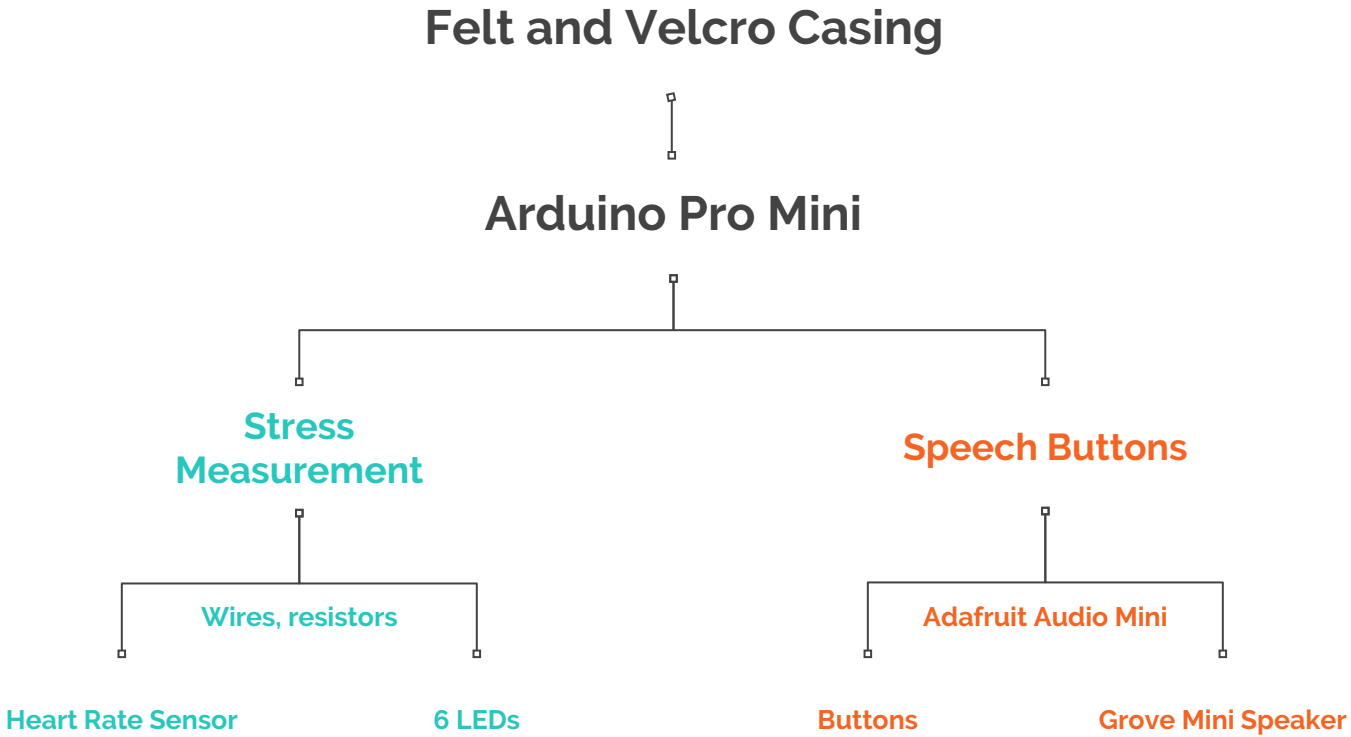
Click here to view full project
Click here to view code

Changes

Here is how we're making the designs our own

- ➔ **Felt Exterior**
- ➔ **Arduino Pro Mini instead of Uno**
- ➔ **Combining 2 projects**
- ➔ **Animal persona makes project more tangible**
- ➔ **3 LEDs instead of flashing light as repetition becomes irritating**
- ➔ **Giving project a bigger emotional purpose than just a heart sensor and soundboard**

The Hardware


Felt and Velcro Casing
Arduino Pro Mini
Stress Measurement
Speech Buttons
Wires, resistors
Adafruit Audio Mini
Heart Rate Sensor
6 LEDs
Buttons
Grove Mini Speaker

2. What We Need

- **Arduino Pro Mini 5V £3**
  Small light board to fit in bracelet
- **Adafruit Audio Mini £17**
  Buttons to Data
- **Grove Mini Speaker £7**
  Data to Audio
- **Felt + Velcro £2**
- **6 LEDs £2**
  Small light board to fit in bracelet
- **Heart Rate Sensor £5**
  Buttons to Data
- **Wires £3** Connect input with output
- **Arduino Software (free)**
  C++

Altogether : £39

In Context

Daniel

Daniel is a young adult who developed anxiety moving away from home and working full time.

When he's around his friends, he doesn't want to ruin his their fun by explaining everything going through his head. However, he wants them to know why sometimes he isn't himself.

Ventrilocat senses Daniel's heart rate to let him know when his body is reacting to stress. When his chest feels too tight to speak, all he has to do is push a button to let his friends know.

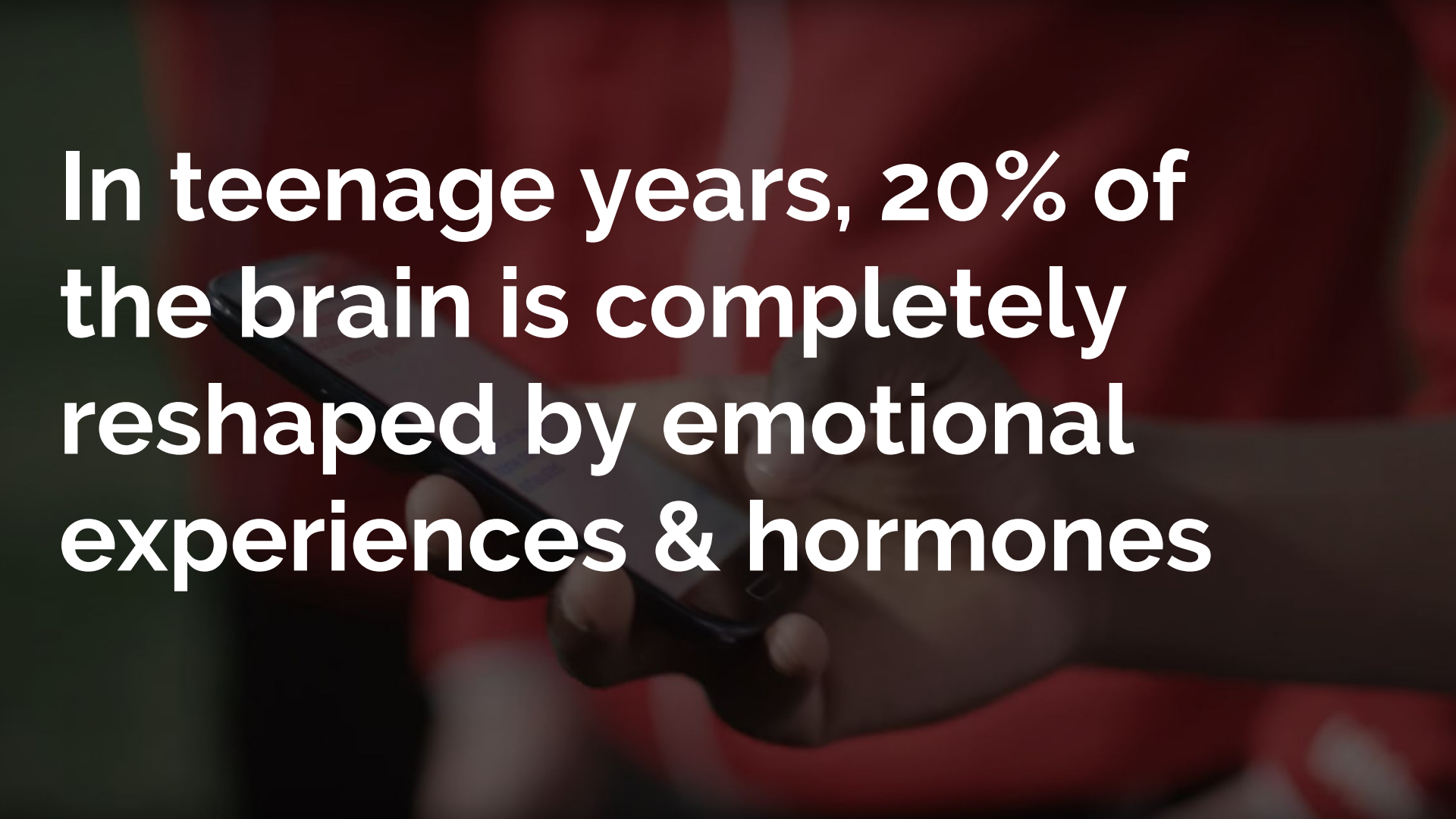
In the UK alone, 3 million people suffer from anxiety.

Rosabella

Growing up translates to a turmoil of developing emotions, flipping all kinds of hormones around Ellie's brain.

When no one including herself understands what she's going through, Ellie uses the Ventrilocat to trace her mood back to one of 6 most instinctive feelings.

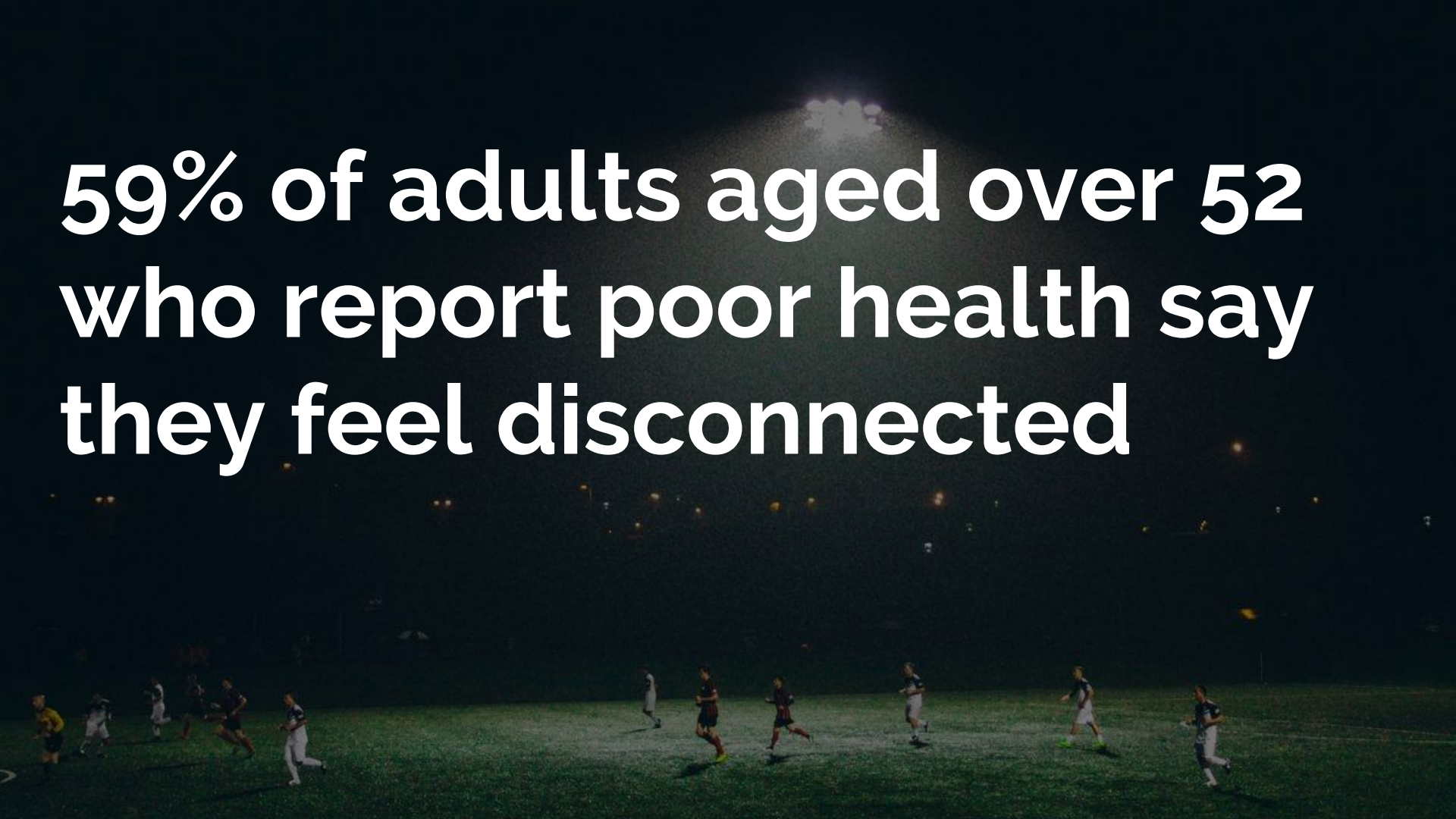
Putting a name on her feelings makes them much less daunting and she loves the cute design!


In teenage years, 20% of the brain is completely reshaped by emotional experiences & hormones

Declan

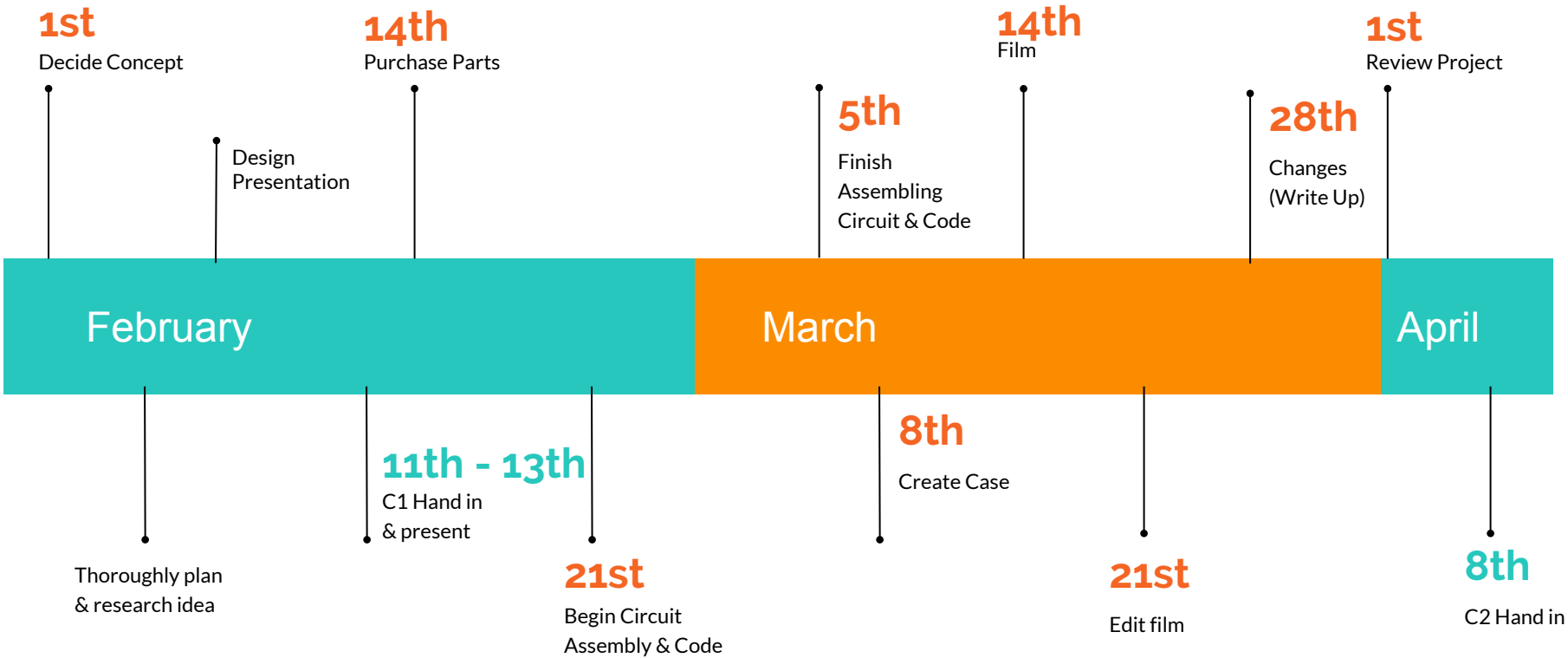
Growing up in the 40s, Declan was taught men shouldn't talk about their feelings. Life has made him tough and sometimes he just can't express how much it means to see his granddaughter smile.

Not only do his grandkids adore when he lets them sit on his knee and play with the Ventrilocat, but at the push of a button he can let them know how happy and grateful he is for their surprise visit!


59% of adults aged over 52 who report poor health say they feel disconnected

Offload your communication
on Ventrilocat.

The Timescale


1st
Decide Concept
Design Presentation
14th
Purchase Parts
Thoroughly plan & research idea
11th - 13th
C1 Hand in & present
21st
Begin Circuit Assembly & Code
February
5th
Finish Assembling Circuit & Code
8th
Create Case
14th
Film
21st
Edit film
28th
Changes (Write Up)
1st
Review Project
March
April
8th
C2 Hand in

Ready to change the way you communicate?
Prepare for Ventrilocat.

References

Slide 5: https://s3.amazonaws.com/kairos-media/blog-images/kairos-6-emotions.jpg
Slide 6: http://www.thedailytop.com/wp-content/uploads/2014/05/a87ff679a2f3e71d9181a67b7542122c180.jpg &
https://thumbs.dreamstime.com/b/angry-upset-man-scary-face-evil-59239590.jpg
Slide 8: https://s-media-cache-ak0.pinimg.com/originals/fe/c9/8c/fec98c61eb0e2c85bcc0a57a5d8e9b66.jpg &
https://s-media-cache-ak0.pinimg.com/originals/a5/01/27/a501278bd34c9cb346d456495c0a55f0.jpg
Slide 10: https://pulsesensor.com/blogs/news/6326816-anatomy-of-the-diy-heart-rate-monitor
Slide 12: https://www.adafruit.com/product/2210
Slide 20: https://cdn.trendhunterstatic.com/thumbs/ruby-mercier.jpeg
Slide 22: http://fivelightsdown.co.uk/wp-content/uploads/2015/06/Grandad-3524-small.jpg
Slide 24: http://www.focusphotography.ca/wp-content/uploads/2016/08/Communication-Is-Key.jpg

All other images derived from Google Templates & linked projects.